

# NAVAL POSTGRADUATE SCHOOL

## Monterey, California



### THESIS

**DETERMINATION OF THE INDIRECT SUPPORT COSTS  
FOR THE MORALE, WELFARE, AND RECREATION  
DEPARTMENT AT THE NAVAL POSTGRADUATE  
SCHOOL IN PREPARATION FOR AN ACTIVITY-BASED  
COST ANALYSIS**

by

Jonathan C. Beattie

June 2000

Thesis Advisor:  
Associate Advisor:

James M. Fremgen  
Shu S. Liao

Approved for public release; distribution is unlimited.

20000818 059

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE June 2000		3. REPORT TYPE AND DATES COVERED Master's Thesis
4. TITLE AND SUBTITLE : Determination of the Indirect Support Costs for the Morale, Welfare, And Recreation Department at the Naval Postgraduate School in Preparation for an Activity-Based Cost Analysis				5. FUNDING NUMBERS
6. AUTHOR(S) Beattie, Jonathan C.				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000				8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A				10. SPONSORING / MONITORING AGENCY REPORT NUMBER
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.				12b. DISTRIBUTION CODE
13. ABSTRACT (maximum 200 words) This thesis is about determining the indirect support costs for the Morale, Welfare, and Recreation (MWR) department at the Naval Postgraduate School (NPS) as a first step in conducting an activity-based cost (ABC) analysis on the organization. All MWRs use a full cost accounting system to track costs, but the problem facing MWR at NPS is that it was unable to determine its indirect support costs (utilities, communications, maintenance, and contracts). This thesis measured and documented indirect costs and also identified activity-based cost drivers for activity pools at MWR. In order to calculate the indirect costs for MWR, an Excel spreadsheet was developed to extract these costs from the rest of NPS. The indirect support costs for MWR at NPS during the first six months of Fiscal Year 2000 were calculated to be approximately \$150,000. Then, the activities identified by MWR for their ABC study were examined closely, and a suitable cost driver for each activity was recommended.				
14. SUBJECT TERMS Indirect support costs, indirect costs, MWR, Activity-based costing				15. NUMBER OF PAGES 118
				16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified		20. LIMITATION OF ABSTRACT UL



Approved for public release; distribution is unlimited

**DETERMINATION OF THE INDIRECT SUPPORT COSTS FOR THE  
MORALE, WELFARE, AND RECREATION DEPARTMENT AT THE NAVAL  
POSTGRADUATE SCHOOL IN PREPARATION FOR AN ACTIVITY-BASED  
COST ANALYSIS**

Jonathan C. Beattie  
Ensign, United States Naval Reserve  
B.S., United States Naval Academy, 1999

Submitted in partial fulfillment of the  
requirements for the degree of

**MASTER OF SCIENCE IN MANAGEMENT**

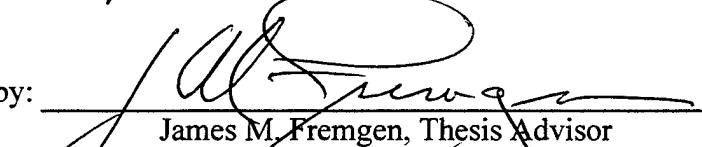
from the

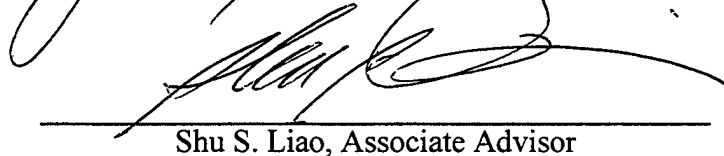
**NAVAL POSTGRADUATE SCHOOL  
June 2000**

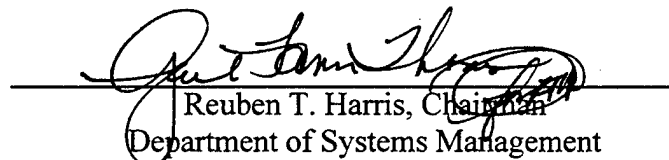
Author:

  
Jonathan C. Beattie

Approved by:

  
James M. Fremgen, Thesis Advisor

  
Shu S. Liao, Associate Advisor

  
Reuben T. Harris, Chairman  
Department of Systems Management



## **ABSTRACT**

This thesis is about determining the indirect support costs for the Morale, Welfare, and Recreation (MWR) department at the Naval Postgraduate School (NPS) as a first step in conducting an activity-based cost (ABC) analysis on the organization. All MWRs use a full cost accounting system to track costs, but the problem facing MWR at NPS is that it was unable to determine its indirect support costs (utilities, communications, maintenance, and contracts). This thesis measured and documented indirect costs and also identified activity-based cost drivers for activity pools at MWR. In order to calculate the indirect costs for MWR, an Excel spreadsheet was developed to extract these costs from the rest of NPS. The indirect support costs for MWR at NPS during the first six months of Fiscal Year 2000 were calculated to be approximately \$155,000. Then, the activities identified by MWR for their ABC study were examined closely, and a suitable cost driver for each activity was recommended.



## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
A.	BACKGROUND .....	1
B.	INTRODUCTION TO MWR.....	1
C.	PURPOSE .....	1
D.	ACTIVITY-BASED COSTING REVIEW .....	2
1.	ABC Defined .....	3
2.	Benefits of Using ABC .....	3
E.	RESEARCH METHODS .....	4
1.	Opinion Research.....	4
2.	Archival Research.....	5
F.	STATEMENT OF FINDINGS.....	6
G.	THESIS ORGANIZATION.....	6
II.	MORALE, WELFARE, AND RECREATION.....	7
A.	MISSION .....	7
B.	SERVICES PROVIDED BY MWR.....	7
C.	FUNDING.....	8
D.	TENANTS AND REIMBURSABLE CUSTOMERS.....	9
E.	MWR DIRECT COSTS.....	10
F.	MWR INDIRECT COSTS .....	11
G.	CONCERNS STEMMING FROM UNKNOWN INDIRECT COSTS .....	12
1.	Current Problems with Allocation of Indirect Costs at NPS .....	13
2.	Issues Driving the Calculation of Indirect Support Costs.....	13



III.	DETERMINATION OF INDIRECT COSTS .....	17
A.	EXTRACTING MWR'S INDIRECT COSTS .....	17
1.	Utility Cost Excel Spreadsheet .....	17
2.	Maintenance and Repair Costs.....	24
3.	Communications .....	25
4.	Contracts .....	26
B.	COLLECTING ALL INDIRECT COSTS IN ONE WORKSHEET .....	28
IV.	APPLYING ABC TO MWR .....	29
A.	ACTIVITY-BASED COSTING .....	29
1.	Indirect Costs .....	29
2.	Cost Drivers .....	30
B.	NPS COST ALLOCATION METHODS .....	31
C.	EXAMINATION OF OTHER MWRS .....	32
D.	MEVATEC STUDY .....	34
E.	COST DRIVERS FOR MWR .....	35
1.	Planning Programs and Services.....	36
2.	Implementing Programs and Services .....	38
3.	Marketing Programs and Services .....	38
4.	Evaluate Programs and Services .....	39
5.	Supervise and Manage Staff .....	40
6.	Administration Oversight.....	40
7.	Food: Set up, Package and plate, Clean up .....	41
8.	Budget: Prepare and Monitor .....	43
9.	Accounting: Prepare and Process Documents .....	44
10.	Procure Supplies and Equipment .....	45

11.	Manage Facilities and Equipment.....	46
F.	COST DRIVERS FOR THE CDC .....	47
1.	Planning Child Care Services .....	47
2.	Implementing Child Care Services and Programs .....	49
3.	Evaluating Child Development Programs, Services, and Events ....	49
4.	Food Service: Production and Delivery .....	50
V.	CONCLUSIONS AND RECOMMENDATIONS .....	53
A.	CONCLUSIONS FOR MWR.....	53
1.	Finish ABC Study .....	53
2.	Access to the Utility Cost Spreadsheet .....	54
3.	Access to Budget Execution Information .....	55
B.	CONCLUSIONS FOR PUBLIC WORKS .....	56
	APPENDIX A. MWR CATEGORIES .....	57
	APPENDIX B. COST ALLOCATION TABLES FOR UTILITY ACCOUNTS .....	59
	LIST OF REFERENCES .....	99
	INITIAL DISTRIBUTION LIST .....	101

**THIS PAGE INTENTIONALLY LEFT BLANK**

## LIST OF TABLES

Table 3-1. Four Major Accounts and their Subaccounts .....	19
Table 3-2. Allocation of Electric Charges for a Subaccount .....	21
Table 3-3a. Indirect Costs for Categories A and C Programs.....	22
Table 3-3b. Indirect Costs for Category B Programs .....	23
Table 3-4. Monthly Charges for Custodial Contract .....	27
Table 4-1. Cost Driver Recommendations for MWR.....	37
Table 4-2. Cost Driver Recommendations for the Child Development Center .....	48

**THIS PAGE INTENTIONALLY LEFT BLANK**

## **I. INTRODUCTION**

### **A. BACKGROUND**

In the latter half of the 1990s, the Federal Government has made a strong push to fix the deficiencies in the way accounting is performed in its agencies. As with all other Federal entities, the U.S. Navy and its related activities are required to report the full costs of operations in compliance with the Government Performance and Results Act of 1993. Coupled with the reduction in the Department of Defense (DoD) budget this decade, knowing the full cost is all the more important. If programs and activities cannot accurately report their full costs, they run the risk of losing funds in the next budget cycle.

### **B. INTRODUCTION TO MWR**

Morale, Welfare, and Recreation (MWR) is part of the Navy's quality of life (QOL) program. It exists to provide sailors, marines, and their families with access to athletic and entertainment facilities and events, as well as child care and community programs for free or at a reduced cost. The programs and activities MWR sponsors help in developing strong community bonds among military families. A more detailed explanation of MWR is given in Chapter II.

### **C. PURPOSE**

This thesis is about determining the indirect support costs for the MWR department at the Naval Postgraduate School (NPS) and using that information to perform an activity-based cost analysis on the organization.

All MWRs use a full cost accounting system to track costs. The full cost model can be expressed in the following equation:

$$\text{Full costs} = \text{Direct costs} + \text{Indirect support costs.}$$

Direct costs are those costs that are directly related to running MWR, such as direct labor, travel of personnel, and equipment. Indirect support costs include such things as electricity, heat (gas), water, sewage, telephone service, routine maintenance and repair, and contracts for services, such as custodial work.

The issue with MWR at NPS is that, while direct costs are known, it is unable to calculate its indirect support costs. In fact, MWR at NPS has never been able to determine these costs. In terms of the above equation, indirect support costs would be zero and full costs would be equal to direct costs only. An exception to this is the indirect support costs for MWR self-supported programs, which are determined through an allocation equation developed by the NPS Public Works (PW) department because those programs are required to pay for their costs. This allocation equation is dated, however, and activity-based costing (ABC) could be used to provide a more accurate allocation of indirect costs for *all* categories (see Chapter II for a description of MWR categories).

#### **D. ACTIVITY-BASED COSTING REVIEW**

Realizing that the financial data released to external users was virtually useless in making real-time management decisions, managers asked accountants to provide internal cost data. Initially the result was a full-costing system, but “this approach ignored the problems associated with the collection of . . . administrative overhead costs” [Ref. 1:p.

23]. As these overhead costs began to grow larger and larger, the need to allocate these costs became greater. In response, cost accounting systems have introduced many ways to deal with the allocation of these overhead costs, one of which is ABC.

## **1. ABC Defined**

Varying definitions of ABC exist, but all focus on the causal relationship between costs and outputs. The definition this thesis will use for ABC is taken from Stickney and Weil:

[A] method of assigning *indirect costs*, including nonmanufacturing overhead costs, to products and services. ABC assumes that almost all overhead costs are associated with activities within the firm and vary with respect to the drivers of those activities. [Ref. 2:p. G-4]

The reason for using this particular definition is twofold. First, most definitions of ABC deal with manufacturing operations and the physical products that cause resources to be consumed. The above definition notes that services, which are what MWR provides, also cause resources to be consumed. Secondly, MWR is trying to determine its indirect support costs, and this definition clearly identifies ABC as a method for calculating indirect costs.

## **2. Benefits of Using ABC**

Activity-based costing “promotes a sense of *cost consciousness* among managers,” meaning managers are more aware of where costs are being incurred, what causes those costs, and how to allocate those costs to the products and services provided [Ref. 3:p. 47]. ABC offers a solution to the problems of traditional cost accounting, which include the inability to provide accurate cost information for individual services,



the lack of a causal relationship between allocation bases and allocated costs, and the tendency of individual costs to get lost in “overhead” because too few cost pools are used to collect those costs incurred in various activities.

Timothy White outlines the three most important pieces of information that ABC provides:

- improved information on actual activities performed,
- the cost of those activities, and
- the final products that are driving the required activities and associated support costs. [Ref. 4:p. 28]

This information allows for more accurate costing of services, a closer look at what is causing costs, and smaller, more homogeneous cost pools, which allow for a single cost driver to be used for allocation purposes [Ref. 3:p. 52].

Once the indirect support costs are calculated for MWR at NPS, ABC will be applied to these costs so that MWR is more aware of what activities are causing the consumption of their resources. Then changes to individual programs can be made if the MWR administrators feel that those programs are costing too much to perform.

## **E. RESEARCH METHODS**

In determining the type of data needed to calculate the indirect support costs for MWR at NPS, the author concluded that two types of research should be performed in order to collect the proper data: opinion and archival.

### **1. Opinion Research**

Opinion research “seeks the views, judgments or appraisals of other persons with respect to a research problem” [Ref. 5:p. 23]. During the course of this thesis, the author

has used this type of research extensively. Many interviews and meetings were conducted with key MWR, Public Works (PW) and Comptroller personnel. The knowledge and expertise of their respective departments were a great source of information and provided clarification on many issues.

Surveys are another way opinion research can be conducted, and surveying MWR personnel on utility usage was given serious consideration. Questions to be posed to personnel focused on the nature of their work and how their time was allocated doing various tasks. However, the author deemed it unnecessary to develop his own surveys since NPS was undergoing an ABC review, which was (and still is) being conducted by the commercial firm MEVATEC. Specifically, MEVATEC had already conducted surveys and interviews with all MWR personnel, and the author used this information. Reviewing the results of the surveys and interviews is considered to be archival research.

## **2. Archival Research**

This type of research deals with the "examination of recorded facts" [Ref. 5:p. 25], i.e. documents, utility bills, reports, etc. Because MWR at NPS has never had indirect cost data, no archival data exists for it. However, archival data was obtained from MWRs at other installations that are of similar size and scope of programs offered. This data, at minimum, provides a reference point for estimating what the costs should be.

## **F. STATEMENT OF FINDINGS**

After reviewing source documents, determining which indirect costs should be included, and using reasonable allocation bases, MWR's indirect support costs were calculated. Based on the data available, which was limited in certain areas, the indirect support costs for MWR at NPS during the first six months of Fiscal Year 2000 were calculated to be approximately \$150,000. Chapter II discusses the components of this total cost in detail.

The next step after determining the indirect support costs was to perform an ABC analysis on MWR. However, MWR was not able to supply all necessary information to complete the analysis (reasons given in Chapter IV). Therefore, the author performed the next step in their ABC study—determining the cost drivers for each activity.

## **G. THESIS ORGANIZATION**

The rest of this thesis is organized into the following chapters. Chapter II provides a detailed description of MWR, the programs it provides to NPS, the funding it receives, and the driving reasons behind the urgency to determine its indirect costs. In Chapter III the author explains the process used in calculating MWR's indirect support costs. Chapter IV discusses ABC, the activities MWR identified for their ABC study, and recommends cost drivers for the ABC analysis of MWR. Finally, Chapter V offers recommendations to improve the current cost allocation system so that the ABC system will have more accurate information.

## **II. MORALE, WELFARE, AND RECREATION**

### **A. MISSION**

The following is the mission statement of MWR at the top Navy level:

The Navy Morale, Welfare and Recreation Division administers a varied program of recreation, social and community support activities on U.S. Navy facilities worldwide. Our programs provide active-duty, reserve and retired Navy personnel and their families with sports and physical fitness activities, child development and youth programs, and a variety of food and beverage services. Our mission is to provide quality support and recreational services that contribute to the retention, readiness and mental, physical, and emotional well being of our Sailors. [Ref 2]

MWR at NPS, in addition to this mission statement, has developed its own *vision* statement:

Provide top quality Morale, Welfare, and Recreation (MWR) services, products and facilities to our customers, which directly supports accomplishment of the Navy mission. MWR promotes quality use of leisure time, increases satisfaction with the military life, aids in personal and professional growth and assists with retention in the Navy. [Ref 6]

### **B. SERVICES PROVIDED BY MWR**

MWR provides a wide variety of services and programs, ranging from mission essential to business activities. The number of programs offered varies from one MWR to another, depending on the size of the installation and the amount of interest expressed by users. Because NPS is a medium-sized command, MWR at NPS does not offer all the programs that would be found on larger bases. The following list contains the services and programs that MWR at NPS does provide. For a complete list of MWR services and programs, refer to Appendix A.

#### Category A

- Gymnasium/physical fitness/aquatic training
- MWR consolidated support services
- Parks and picnic areas
- Sports/athletics (intramural)
- Single Sailor<sup>1</sup>

#### Category B

- Child development centers
- Community centers
- Entertainment (music)
- Marinas without resale or private berthing
- Recreational information, tickets, and tours services (ITT)
- Recreational swimming pools
- Youth activities

#### Category C

- Catering
- Golf course
- Commissioned Officers Mess, Open (COMO)<sup>2</sup>

### C. FUNDING

Both appropriated funds (APFs) and nonappropriated funds (NAFs) support MWR programs. The APFs are allocated based on the category of the program/facility (A, B, or C). Category A programs are mission sustaining programs in which the military organization is the primary beneficiary and the activity provides identifiable recruiting and/or retention incentives [Ref 1:p 5-176]. They are almost always fully-funded but receive no less than 85% of their funding from appropriated funds.

Category B programs are basic community support programs like child care and recreational swimming. These programs receive a minimum of 65% funding from APFs

---

<sup>1</sup> The Single Sailor program is designed to provide activities for the unmarried military member. Examples of these activities include ski trips, hiking trips, and attending professional sporting events.

<sup>2</sup> The COMO is now an All Hands Club, but since PW breaks out its costs under the COMO title, the author will continue to call it as such.

because they have the ability to generate small amounts of revenue but are not expected to sustain themselves on that revenue.

Category C programs are programs that primarily benefit the individual. They generate enough revenue to be self-sustaining. They receive no more than 5% in APF support.

#### **D. TENANTS AND REIMBURSABLE CUSTOMERS**

A significant determination involved classifying MWR at NPS as a tenant and/or as a reimbursable customer. The NPS PW Department considers a *tenant* to be an organization or activity that is located on NPS or the Navy Annex but has its own chain of command (i.e., the activity is not formally tied to the NPS chain of command). The costs incurred by the tenant are divided between the tenant and NPS based on a host-tenant agreement. Some examples of NPS tenants are the Dental Clinic and the Navy Exchange.

A *reimbursable customer* (RC) is an organization or activity that is located on NPS or the Annex and must reimburse NPS for the costs that it incurs, costs that NPS initially pays, such as utility costs. RCs may or may not be formally tied to the NPS chain of command. An example of a RC that is formally tied to NPS is MWR Category C programs. The Dental Clinic is a RC that is not formally tied to NPS (i.e., it is a RC as well as a tenant).

On occasion there may be a tenant that is not a RC. At NPS, an example of this is the Fleet Numerical Meteorology and Oceanography Center (FNMOC). NPS considers FNMOC to be a tenant because it has its own chain of command, but the utility costs

incurred by FNMOC are paid for by NPS. Still, the utility costs for FNMOC are calculated by PW so that NPS and DON know the amount of resources FNMOC is consuming.

The reason for determining where MWR fits under these two classifications is due to the special nature of MWR. It is not a tenant because it falls under the direction of the NPS Superintendent. As mentioned above, a portion of MWR is considered to be a RC because of its Category C programs- the COMO and the golf course. These are two activities that are required to pay (reimburse) PW for the utility and maintenance costs they incur<sup>3</sup> as well as NPS for communications and contracts. However, MWR programs in categories A and B are not reimbursables and thus do not give NPS money for the costs incurred by them. Category A and B indirect costs (discussed later in this chapter) are paid for by NPS. Since these are the costs MWR is seeking, they must be extracted from the total NPS costs. The methodology for determining these indirect costs is described in Chapter III.

#### **E. MWR DIRECT COSTS**

The categories listed below were identified by the MWR Financial Administrator as direct cost categories:

- Civilian Personnel
- Travel of Personnel
- Transportation of Things
- Supplies
- Equipment
- Minor Construction
- Other expenses

---

<sup>3</sup> The utility costs for the golf course are separately identifiable because it has its own meters, but the COMO must use engineering estimates because it is embedded among activities that are not RCs.

Direct costs incurred by MWR are reported and recorded in the following manner. After expending funds in one of the above categories, the MWR Financial Administrator reviews all receipts or vouchers associated with the expenditure and records the amount spent in a spreadsheet under the MWR activity that incurred the expense. These source documents are then forwarded to the assistant comptroller who handles all MWR accounts. There, the expenditure is entered into a database called FASTDATA, which is used to generate APF execution reports and budget submittals. The reason the MWR Financial Administrator uses an internal spreadsheet to keep track of expenditures is because she is not authorized to access the comptroller's database.

#### **F. MWR INDIRECT COSTS**

For MWR at NPS, indirect costs occur in these specific expense categories:

- Utilities and Rents
- Communications
- Maintenance and Repair
- Contracts

Specific items that fall under the category of utilities are heat, steam, water, gas, electricity, air conditioning, and other utility services for facilities used primarily by MWR programs. Also included are the purchase, installation, and maintenance of metering devices. Rent expense is not applicable to MWR at NPS because it does not use nor possess any non-DOD lands or buildings [Ref. 9:p. 5-211].

The communication category includes electronic communications (teletype, television, AUTOVON, AUTODIN, public address systems, and other such electronic media) provided to MWR programs and facilities. Communications also include postal service, mail indicia, and postage. This applies to the support provided to MWR



programs by governmental postal organizations and systems for the dispatch of official mail by MWR activities and the rental of post office boxes [Ref. 9:p 5-214].

Maintenance and repair each have their own definitions as to what constitutes an expense in this category. *Maintenance* applies to the recurrent, day to day, periodic, or scheduled work required to preserve a government-owned facility, its installed equipment, and its premises in such a condition that it may be effectively utilized. *Repair* applies to the restoration of a facility to such a condition that it may be used effectively (excluding emergency service work that is reimbursable under a host-tenant agreement) [Ref. 9:p. 5-218].

Finally, there is the category of contracts. One item in this category is custodial and janitorial services and the associated costs for the manpower, supplies, and equipment. The contract for refuse removal also falls under this category.

#### **G. CONCERNS STEMMING FROM UNKNOWN INDIRECT COSTS**

Since MWR uses a full cost model, managers need to know what their direct and indirect support costs are. The problem facing MWR is that, while it has direct cost data, the amount of indirect support costs it incurs is unknown. For many years this was not an issue. The MWR financial administrator would just make a note in MWR's financial statements highlighting this deficiency. Times have changed, though, and MWR now finds itself needing to know its indirect support costs. An inability to generate these numbers could result in a reduction of APF support in the future, which in turn means the likelihood of increased fees for programs and activities. The result would be lower morale, as sailors and their families find themselves paying more for these services.

## **1. Current Problems with Allocation of Indirect Costs at NPS**

Each area of indirect costs has its own problems that must be dealt with in order to correctly calculate the indirect costs for MWR. Each of these problems is described below, beginning with utilities.

The PW department receives all utility bills for NPS and its eleven tenants and reimbursable customers (RC). Normally PW would allocate to each tenant a portion of the cost of the bill based on a particular allocation base, such as square footage for electricity. However, PW at NPS has a difficult time allocating these indirect support costs to the tenants because its ability to meter where the utilities go once they enter NPS is extremely limited. Very few individual buildings have their own meters for electricity, water, or gas, and some of the meters that do exist are either not readable or do not work properly. Efforts to solve this problem through a broad allocation scheme have been stymied by 1) the movement of tenants to different locations on the main station and 2) a lack of manpower that could be dedicated to solve the problem.

## **2. Issues Driving the Calculation of Indirect Support Costs**

Besides the issue of MWR programs costing more for sailors, marines, and their families mentioned above, there are three other major issues that are driving the need to determine what the indirect support costs are for MWR at NPS— administrative decisions, special interest money, and the MWR Congressional Report.

The most significant reason that MWR at NPS needs to know the full costs of each program is so the MWR administrators can make decisions on whether to keep running a program or to drop it. Because MWR at NPS cannot determine the full costs of

its programs and activities, it does not know if the costs of specific programs are being covered, either by APFs or the revenues they generate. In other words, a program that currently looks like it is being adequately funded or is generating enough revenue to offset the costs in actuality may not be because the indirect support costs are not included.

The funds in MWR's budget are special interest monies because they go directly toward quality of life (QOL) programs for the armed forces. QOL problems have been hot issues in the military the last several years, especially since departing service members cite a lack of QOL initiatives as a reason for leaving [Ref 1: p 5-176].

Therefore, special attention is given to the way MWR obligates its APFs.

Each quarter of the fiscal year, MWR (through the NPS Comptroller) prepares and submits the "Quarterly Report of Appropriated Fund Support to MWR," which shows MWR's budget execution. The report is sent to the QOL Programs Manager at Field Support Activity/ CNO Claimancy in Washington D.C. The programs manager then rolls up all the reports received from the various MWRs (the field activities) in her claimancy and forwards an aggregate report to NAVPERS (PERS 65) in Millington, TN. That report gets rolled up into a Navy-wide MWR report and is forwarded to NAVCOMPT, who then forwards it to OSD(C), who sends it to a Congressional Subcommittee for review.

Since the execution of APFs for MWR Navy-wide is reported at the congressional level, the costs of MWR programs need to be accurately measured. Each quarter MWR at NPS submits its APF Execution Report without showing any indirect support costs. MWR acknowledges that they are required to report indirect support costs but note that

they are unable to do so. Still, the QOL Programs Manager takes the report and rolls it into the claimancy report, etc. So the fact that the overall report does not include the indirect support costs for MWR at NPS probably does not make a big difference. In fact, the dollar amounts at NPS relative to the aggregate amount in the report could be considered rounding error. Additionally, the yearly budget execution of all MWRs navy-wide amounts to less than 1% of the Navy's total obligational authority (TOA). Even though the congressional subcommittee has the power to request an individual activity's execution report for review, this is *very unlikely* to happen. Congress is mainly concerned with the big picture— how much the Navy is spending on QOL programs.

**THIS PAGE INTENTIONALLY LEFT BLANK**

### **III. DETERMINATION OF INDIRECT COSTS**

This chapter explains the process of calculating the indirect support costs for MWR at NPS.

#### **A. EXTRACTING MWR'S INDIRECT COSTS**

Calculating MWR's indirect costs proved to be an extensive task. The first step involved identifying which departments were responsible for handling the various indirect costs. Since public works pays all the utility bills and performs all the maintenance and repair work, their information provided a good starting point for calculating MWR's indirect costs. Once these costs were calculated the focus turned to the costs of communications and finally to contracts.

##### **1. Utility Cost Excel Spreadsheet**

With MWR programs spread throughout multiple buildings and facilities in three different areas, determining the utility costs of each program was a daunting task. The allocation scheme used by PW allocated costs based on who paid the bill, not necessarily who occupied the building, as with MWR Category A and B programs.

The utility cost spreadsheet was developed in conjunction with the PW Engineering Director in order to allocate utility costs more accurately to NPS and the various tenants and RCs, including MWR. First, all the different utility accounts were identified. NPS currently has nine major utility accounts, which are divided further into a total of thirty-one subaccounts. Each subaccount represents a meter. Table 3-1 shows

one of these major accounts, along with its eight subaccounts. For a full listing of every major account and subaccount, see Appendix B.

Next, the building(s) being served by a particular meter were identified as well as the occupants of the building(s). Then the allocation bases were chosen for the various utilities. Electricity and natural gas are allocated on square footage while water and sewage are allocated per capita. The PW engineering department chose these allocation measures based on the guidance found in NAVCOMPT Vol. 3, which says that only one allocation base can be used for each utility service provided. For some tenants and RCs like NFCU and the Defense Management Resources Institute (DRMI), square footage and per capita provide reasonably accurate measurements. For others such as the Defense Printing Service (DPS), the electricity costs might be more accurately allocated based on the number of hours the printing machines are running. However, the metering situation (discussed in Chapter II) prevents the use of allocation bases that may be better suited for a particular tenant or RC.

Square footage information was obtained from the P-164, a PW engineering document containing the square footage each building occupied. The P-164 had been updated in 1999,<sup>4</sup> and thus its information was deemed to be sufficiently accurate. Per capita data was obtained by directly calling the various tenants and asking for the number of people assigned to them.

Once this information was obtained, the next step involved setting up Excel worksheets for the various accounts and sub-accounts. The first worksheet is first broken down by major account, then by sub-accounts. Table 3-1 displays four major accounts—

---

<sup>4</sup> Many PW engineering records, including the P-164, are to be updated annually, but this rarely happens due to manpower constraints.

FY 2000					Mar		
				units	usage	cost	rate
<b>PG&amp;E Electric &amp; Distribution</b>							
Account & Sub-accts	Meter #	Location	Tenant(s)	Units			
JBT SB 03131-5		Main Station			30,720	2,841	0.09
QBM 97-20101	R64314	Radar, Salinas	NWS	Kwh	2,841	271	0.10
VBM-95-00071	27R246	Bldg 349	Supply	Kwh	1,510	149	0.10
VBM-95-00551	6T1208	NEX Gas Station	NEXCOM	Kwh	5,840	536	0.09
VBM-95-01501	237R74	Ballfield	MWR	Kwh	11,840	1,008	0.09
VBM-95-02051	3569R7	Bldg 437	NPS	Kwh	1,800	165	0.09
VBM-95-02101	92R235	PW Complex	NPS	Kwh	4,880	467	0.10
VBM-95-00051	T50807	Bldg 514	NPS	Kwh	409	48	0.12
VBM-95-08113	324R30	Golf Course	MWR / NPS	Kwh	1,600	196	0.12
<b>DFESC Natural Gas</b>							
SPO600-99-D-7522	na	Main Station	NPS	dth	9922	26854	2.71
<b>Cal-Am Water</b>							
020-456-7920-002	60117529	LMV	Housing	100 cf	7,848	19,571	2.49
020-401-0050-001	31973693	Main Station	NPS	100 cf	2,704	8,685	3.21
020-402-1200-009	31940059	Annex	FNMOCC	100 cf	489	2,456	5.02
020-602-0520-006	Set cost	Garden Ave. Fire	NPS	100 cf	0	49.05	0
020-602-1460-004	Set cost	Garden Ave. Dom.	NPS	100 cf	0	35.28	0
<b>MRWPCA Sewage</b>							
03-5896/001-771-039	set cost	LMV	Housing	na	0	12,671	0
03-8255/013-011-002	set cost	Main Station	NPS	na	0	4,440	0

Table 3-1. Four Major Accounts and their Subaccounts

PG&E electric, DFESC natural gas, Cal-Am water, and sewage (City of Monterey)—and their subaccount(s). The meter for each subaccount is identified, as well as the building(s) and the tenant(s). Then for each month of the fiscal year there is a “usage” column, a “cost” column, and a “rate” column. The “rate” column provides PW with useful cost information, but this information is not applicable to MWR.

When a utility bill is received, the usage and cost for each meter is inserted into the spreadsheet. The rate is calculated by a preprogrammed equation, dividing the cost by the usage. For example, for all electric bills the usage is measured in kilowatt-hours



and cost is in dollars, so the rate would be dollars per kilowatt-hour. This initial worksheet is the only worksheet where data is inputted. All subsequent utility worksheets use a combination of data from this initial worksheet as well as from either a worksheet containing square footage data or a worksheet containing per capita data, depending on the utility.

Each subsequent utility worksheet is for a specific supplier of a utility and all the accounts and subaccounts for that supplier. These worksheets are very detailed in the cost breakdowns. The costs for the various tenants are calculated by multiplying the percentage of tenant square footage that a meter serves by the costs incurred through that meter. Each tenant's costs from each subaccount are then summed to provide PW with cost information on each tenant. Each subaccount (a meter) also separates costs by month among NPS and the nineteen tenants and RCs. Take the PG&E electric subaccount VBM-95-08113 (the golf course), for instance. All the electrical costs measured by this meter are allocated between MWR and NPS based on square footage because the school has an aeronautics laboratory next to the golf course, which receives electricity through the same meter (Table 3-2).

The level of cost breakdown described above is sufficient for most tenants. However, MWR requires another level of cost breakdown for its quarterly budget execution report. The costs identified as MWR costs must be assigned to the various MWR programs. To do this, a separate worksheet was made to break out MWR costs by program (Table 3-3). Then each building or space that MWR occupies was matched with the program being run there. The costs associated with those particular buildings

PG&E Electric  
 Account: JBT-SB-03131-5  
 Subaccount: VBM-95-08113      Golf Course and Lab Area

Billing Month:	MAR
	196

Monthly Bill	
Oct	243
Nov	109
Dec	144
Jan	196
Feb	102
Mar	196

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM
								47	
								21	
								28	
								38	
								20	
								38	

Monthly Bill	
Oct	243
Nov	109
Dec	144
Jan	196
Feb	102
Mar	196

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									196
									88
									116
									158
									83
									158

Table 3-2. Allocation of Electric Charges for a Subaccount

and spaces were then retrieved from the various utility worksheets and allocated among the programs using the same allocation bases previously mentioned.

Continuing with the above example of the PG&E electric subaccount VBM-95-08113, MWR's portion of the bill is referenced to the appropriate cell under the golf course column in Table 3-3. Because the golf course is a MWR Category C program, MWR pays the bill. Therefore, PW places this cost in the MWR column. However, any

### Category C

FY 2000	Grand Total	Gyms/ Physical Fitness			Parks & Picnic Areas		Sports Athletics		Mgmt Ohd Consolid Support		Single Sailor		Messes Clubs		Golf Courses	
		A02	A06	A09	A10	A11	A Total	C06	C07C	C Total						
TOTAL Rents & Utilities (Cum)	\$ 83,832	13,650	-	6,880	1,466	-	\$ 21,996	28,199	9,718	\$ 37,917						
Maintenance & Repair Contracts	\$ 310	-	-	-	-	-	\$ -	-	-	\$ -						
	\$ 9,925	1,907	-	614	431	-	\$ 2,951	4,055	836	\$ 4,891						
	\$ 60,432	16,059	3,561	-	1,395	-	\$ 21,015	15,378	5,318	\$ 20,697						
Oct																
Rents & Utilities Communications	\$ 18,184	2,566	-	1,510	311	-	\$ 4,387	6,431	2,518	\$ 8,949						
Maintenance & Repair Contracts	\$ 40	-	-	-	-	-	\$ -	-	-	\$ -						
	\$ 981	177	-	53	-	-	\$ 230	315	274	\$ 589						
	\$ 10,072	2,676	594	-	232	-	\$ 3,503	2,563	886	\$ 3,449						
Nov																
Rents & Utilities Communications	\$ 9,895	2,204	-	1,140	225	-	\$ 3,569	4,241	2,085	\$ 6,326						
Maintenance & Repair Contracts	\$ 43	-	-	-	-	-	\$ -	-	-	\$ -						
	\$ 1,207	491	-	-	75	-	\$ 566	355	247	\$ 601						
	\$ 10,072	2,676	594	-	232	-	\$ 3,503	2,563	886	\$ 3,449						
Dec																
Rents & Utilities Communications	\$ 15,112	2,565	-	1,157	271	-	\$ 3,994	5,246	1,504	\$ 6,750						
Maintenance & Repair Contracts	\$ 56	-	-	-	-	-	\$ -	-	-	\$ -						
	\$ 2,511	164	-	-	66	-	\$ 230	2,202	-	\$ 2,202						
	\$ 10,072	2,676	594	-	232	-	\$ 3,503	2,563	886	\$ 3,449						
Jan																
Rents & Utilities Communications	\$ 12,049	2,298	-	1,079	236	-	\$ 3,613	4,207	1,384	\$ 5,591						
Maintenance & Repair Contracts	\$ 20	-	-	-	-	-	\$ -	-	-	\$ -						
	\$ 972	236	-	53	168	-	\$ 457	231	284	\$ 515						
	\$ 10,072	2,676	594	-	232	-	\$ 3,503	2,563	886	\$ 3,449						
Feb																
Rents & Utilities Communications	\$ 16,125	2,143	-	986	223	-	\$ 3,352	4,113	838	\$ 4,951						
Maintenance & Repair Contracts	\$ 40	-	-	-	-	-	\$ -	-	-	\$ -						
	\$ 776	27	-	509	-	-	\$ 536	239	-	\$ 239						
	\$ 10,072	2,676	594	-	232	-	\$ 3,503	2,563	886	\$ 3,449						
Mar																
Rents & Utilities Communications	\$ 12,467	1,874	-	1,008	200	-	\$ 3,082	3,960	1,390	\$ 5,350						
Maintenance & Repair Contracts	\$ 110	-	-	-	-	-	\$ -	-	-	\$ -						
	\$ 3,478	811	-	-	90	-	\$ 900	425	31	\$ 456						
	\$ 10,072	2,676	594	-	232	-	\$ 3,503	2,563	886	\$ 3,449						

Table 3-3a. Indirect Costs for Category A and C Programs

MWR Indirect Costs										Category B										Mgmt	
Breakdown by Program																				School	
										Commu				School				Age		Ohd	
										nity				Care				Care		Consol	
										Marinas				w/o				(MW)		id	
										Resale				Rec				Youth		Support	
										s				ITT				Activities		Support	
										Age				B02D				B02G		B05	
										(CD)				B02E				B02F		B02H	
										B01A				B02A				B02C		B02D	
										B01B				B01D				B01E		B01F	
										FCC				B01G				B01H		B01I	
										CDC				B01J				B01K		B01L	
										B01M				B01N				B01O		B01P	
										B01Q				B01R				B01S		B01T	
										B01U				B01V				B01W		B01X	
										B01Y				B01Z				B02A		B02B	
										B02C				B02D				B02E		B02F	
										B02G				B02H				B02I		B02J	
										B02K				B02L				B02M		B02N	
										B02O				B02P				B02Q		B02R	
										B02S				B02T				B02U		B02V	
										B02W				B02X				B02Y		B02Z	
										B02AA				B02AB				B02AC		B02AD	
										B02AE				B02AF				B02AG		B02AH	
										B02AI				B02AJ				B02AK		B02AL	
										B02AM				B02AN				B02AO		B02AP	
										B02AQ				B02AR				B02AS		B02AT	
										B02AU				B02AV				B02AW		B02AX	
										B02AY				B02AZ				B02BA		B02BB	
										B02BC				B02BD				B02BE		B02BF	
										B02BG				B02BH				B02BI		B02BJ	
										B02BK				B02BL				B02BM		B02BN	
										B02BO				B02BP				B02BQ		B02BR	
										B02BS				B02BT				B02BU		B02BV	
										B02BW				B02BX				B02BY		B02BZ	
										B02CA				B02CB				B02CC		B02CD	
										B02CE				B02CF				B02CG		B02CH	
										B02CI				B02CJ				B02CK		B02CL	
										B02CM				B02CN				B02CO		B02CP	
										B02CQ				B02CR				B02CS		B02CT	
										B02CU				B02CV				B02CW		B02CX	
										B02CY				B02CZ				B02DA		B02DB	
										B02DD				B02DE				B02DF		B02DG	
										B02DH				B02DI				B02DJ		B02DK	
										B02DL				B02DM				B02DN		B02DO	
										B02DP				B02DQ				B02DR		B02DS	
										B02DT				B02DU				B02DV		B02DW	
										B02DX				B02DY				B02DZ		B02EA	
										B02EB				B02EC				B02ED		B02EE	
										B02EF				B02EG				B02EH		B02EI	
										B02EJ				B02EK				B02EL		B02EM	
										B02EN				B02EO				B02EP		B02EQ	
										B02ER				B02ES				B02ET		B02EU	
										B02EV				B02EW				B02EX		B02EY	
										B02EZ				B02FA				B02FB		B02FC	
										B02FD				B02FE				B02FF		B02FG	
										B02FH				B02FI				B02FJ		B02FK	
										B02FL				B02FM				B02FN		B02FO	
										B02FP				B02FQ				B02FR		B02FS	
										B02FT				B02FU				B02FV		B02FW	
										B02FX				B02FY				B02FZ		B02GA	
										B02GB				B02GC				B02GD		B02GE	
										B02GF				B02GG				B02GH		B02GI	
										B02GJ				B02GK				B02GL		B02GM	
										B02GN				B02GO				B02GP		B02GQ	
										B02GR				B02GS				B02GT		B02GU	
										B02GV				B02GW				B02GX		B02GY	
										B02GZ				B02HA				B02HB		B02HC	
										B02HD				B02HE				B02HF		B02HG	
										B02HH				B02HI				B02HJ		B02HK	
										B02HL				B02HM				B02HN		B02HO	
										B02HP				B02HQ				B02HR		B02HS	
										B02HT				B02HU				B02HV		B02HW	
										B02HX				B02HY				B02HZ		B02IA	
										B02IB				B02IC				B02ID		B02IE	
										B02IF				B02IG				B02IH		B02II	
										B02IJ				B02IK				B02IL		B02IM	
										B02IN				B02IO				B02IP		B02IQ	
										B02IR				B02IS				B02IT		B02IU	
										B02IV				B02IW				B02IX		B02IY	
										B02IZ				B02JA				B02JB		B02JC	
										B02JD				B02JE				B02JF		B02JG	
										B02JH				B02JI				B02JJ		B02JK	
										B02JL				B02JM				B02JN		B02JO	
										B02JP				B02JQ				B02JR		B02JS	
										B02JT				B02JU				B02JV		B02JW	
										B02JX				B02JY				B02JZ		B02KA	
										B02KB				B02KC				B02KD		B02KE	
										B02KF				B02KG				B02KH		B02KI	
										B02KJ				B02KK				B02KL		B02KM	
										B02KN				B02KO				B02KP		B02KQ	
										B02KR				B02KS				B02KT		B02KU	
										B02KV				B02KW				B02KX		B02KY	
										B02KZ				B02LA				B02LB		B02LC	
										B02LD				B02LE				B02LF		B02LG	
										B02LH				B02LI				B02LJ		B02LK	
										B02LL				B02LM				B02LN		B02LO	
										B02LP				B02LQ				B02LR		B02LS	
										B02LT				B02LU				B02LV		B02LW	
										B02LX				B02LY				B02LZ		B02MA	
										B02MB				B02MC				B02MD		B02ME	
										B02MF				B02MG				B02MH		B02MI	
										B02MJ				B02MK				B02ML		B02MN	
										B02MO				B02MP				B02MQ		B02MR	
										B02MS				B02MT				B02MU		B02MV	
										B02MX				B02MY				B02MZ		B02NA	
										B02NB				B02NC				B02ND		B02NE	
										B02NF				B02NG				B02NH		B02NI	
										B02NJ				B02NK				B02NL		B02NM	
										B02NN				B02NO				B02NP		B02NQ	
										B02NR				B02NS				B02NT		B02NU	
										B02NV				B02NW				B02NX		B02NY	
										B02NZ				B02OA				B02OB		B02OC	
										B02OD				B02OE				B02OF		B02OG	
										B02OH				B02OI				B02OJ		B02OK	
										B02OL				B02OM				B02ON		B02OO	
										B02OP				B02OQ				B02OR		B02OS	
										B02OT				B02OU				B02OV		B02OW	
										B02OX				B02OY				B02OZ		B02PA	
										B02PB				B02PC				B02PD		B02PE	
										B02PF				B02PG				B02PH		B02PI	
										B02PJ				B02PK				B02PL		B02PM	
										B02PN				B02PO				B02PP		B02PQ	
										B02PR				B02PS				B02PT		B02PU	
										B02PV				B02PW				B02PX		B02PY	
										B02PZ				B02QA				B02QB		B02QC	
										B02QD				B02QE				B02QF		B02QG	
										B02QH				B02QI				B02QJ		B02QK	
										B02QL				B02QM				B02QN		B02QO	
										B02QP				B02QQ				B02QR		B02QS	
										B02QT				B02QU				B02QV		B02QW	
										B02QX				B02QY				B02QZ		B02RA	
										B02RB				B02RC				B02RD		B02RE	
										B02RF				B02RG				B02RH		B02RI	
										B02RJ				B02RK				B02RL		B02RM	
										B02RN				B02RO				B02RP		B02RQ	
										B02RR				B02RS				B02RT		B02RU	
										B02RV				B02RW				B02RX		B02RY	
										B02RZ				B02SA				B02SB		B02SC	
										B02SD				B02SE				B02SF		B02SG	
										B02SH				B02SI				B02SJ		B02SK	
										B02SL				B02SM				B02SN		B02SO	
										B02SP				B02SQ				B02SR		B02SS	
										B02ST				B02SU				B02SV		B02SW	
										B02SX				B02SY				B02SZ		B02TA	
										B02TB				B02TC				B02TD		B02TE	
										B02TF				B02TG				B02TH		B02TI	
										B02TJ				B02TK				B02TL		B02TM	
										B02TN				B02TO				B02TP		B02TQ	
										B02TR				B02TS				B02TT		B02TU	
										B02TV				B02TW				B02TX		B02TY	
										B02TZ				B02UA				B02UB		B02UC	
										B02UD				B02UE				B02UF		B02UG	
										B02UH				B02UI				B02UJ		B02UK	
										B02UL				B02UM				B02UN		B02UO	
										B02UP				B02UQ				B02UR		B02US	
										B02UT				B02UU				B02UV		B02UW	
										B02UX				B02UY				B02UZ		B02VA	
										B02VB				B02VC				B02VD		B02VE	
										B02VF				B02VG				B02VH		B02VI	
										B02VJ				B02VK				B02VL		B02VM	
										B02VN				B02VO				B02VP		B02VQ	
										B02VR				B02VS				B02VT		B02VU	
										B02VV				B02VW				B02VX		B02VY	
										B02VZ				B02WA				B02WB		B02WC	
										B02WD				B02WE				B02WF		B02WG	
										B02WH				B02WI				B02WJ		B02WK	
										B02WL				B02WM				B02WN		B02WO	
										B02WP				B02WQ				B02WR		B02WS	
										B02WT				B02WU				B02WV		B02WW	
										B02WX				B02WY				B02WZ		B02XA	
										B02XB				B02XC				B02XD		B02XE	
										B02XF				B02XG				B02XH		B02XI	
										B02XJ				B02XK				B02XL		B02XM	
										B02XN				B02XO				B02XP		B02XQ	
										B02XR				B02XS				B02XT		B02XU	
										B02XV				B02XW				B02XX		B02XY	
										B02XZ				B02YA				B02YB		B02YC	
										B02YD				B02YE				B02YF		B02YG	
										B02YH				B02YI				B02YJ		B02YK	
										B02YL				B02YM				B02YN		B02YO	
										B02YP				B02YQ				B02YR		B02YS	
										B02YT				B02YU				B02YV		B02YW	
										B02YX				B02YY				B02YZ		B02ZA	
										B02ZB				B02ZC				B02ZD		B02ZE	
										B02ZF				B02ZG				B02ZH		B02ZI	
										B02ZJ				B02ZK				B02ZL		B02ZM	
										B02ZN				B02ZO				B02ZP		B02ZQ	
										B02ZR				B02ZS				B02ZT		B02ZU	
										B02ZV				B02ZW				B02ZX		B02ZY	
										B02ZZ				B02AA				B02AB		B02AC	
										B02AD				B02AE				B02AF		B02AG	
										B02AH				B02AI				B02AJ		B02AK	
										B02AL				B02AM				B02AN		B02AO	
										B02AP				B02AQ				B02AR		B02AS	
										B02AT				B02AU				B02AV		B02AW	
										B02AX				B02AY				B02AZ		B02BA	
										B02BB				B02BC				B02BD		B02BE	
										B02BF				B02BG				B02BH		B02BI	
										B02BJ				B02BK				B02BL		B02BM	
										B02BN				B02BO				B02BP		B02BQ	
										B02BR				B02BS				B02BT		B02BU	
										B02BV				B02BW				B02BX		B02BY	
										B02BZ				B02CA				B02CB		B02CC	
										B02CD				B02CE				B02CF		B02CG	
										B0											

costs associated with MWR category A or B programs get placed under the NPS column because NPS pays for their utility costs, but these costs are identified as MWR costs in the MWR indirect cost breakdown (Table 3-3), where they are placed directly under the appropriate category.

## **2. Maintenance and Repair Costs**

Only recently has PW begun to effectively track maintenance and repair costs, as well as identify which tenant or RC is responsible for the costs. This tracking is done through the software program MAXIMO. When MWR puts in a request to PW for some maintenance or repair work, PW begins a work order for that particular job. The PW personnel take a copy of the work order, perform the requested work, record all labor and material costs, and return the work order to the PW Engineering Department. The cost data is then entered into MAXIMO along with a brief description of the work performed, information identifying the tenant or RC who requested the work, and the building number where the work was performed.

To extract MWR's maintenance and repair costs, a query was run to identify all work orders that had been labeled with the customer code "N5", which is MWR. Once this list was generated, the list was sorted by completion date of the work order so that no costs prior to the start FY 2000 were included. Then specific MWR programs were matched to the buildings they occupy (the activity code was inserted by the author). In the case of Herrmann Hall (building 220) which contains MWR administrative offices, the ITT office, and COMO, the description of the work performed was usually sufficient in tracing the costs to the specific program. When there was not sufficient detail to

determine the program, the cost was placed in a pool with all other unidentified MWR costs for Herrmann Hall and allocated based on each program's percentage of the total identified costs. To illustrate, the COMO was identified as the source of \$4,290 in maintenance and repair costs for the first six months of FY 2000, or 90% of the total identified MWR maintenance and repair costs in Herrmann Hall. Since unidentified MWR costs over this period totaled \$320, 90% (\$288) was allocated to COMO.

A few errors were found during this process. Several work orders charged to MWR may not have been performed on MWR facilities. For instance, in FY 1999 work order #6512 identified the second floor of the East Wing of Herrmann Hall (building 221) as the location of the work. Since MWR does not occupy any space there, the costs should be charged to NPS, which occupies the area in question. The costs associated with this work order were not included with MWR costs.

Also, some maintenance and repair work done to the restrooms in the basement of Herrmann Hall were incorrectly charged to MWR. The restrooms are common areas, and those costs should be charged to the NPS account instead. The likely reason why MWR was charged is the proximity of MWR facilities to the restrooms and that the PW employees performing the work thought that those restrooms were part of MWR spaces. Again, these costs were not included with MWR costs.

### **3. Communications**

The current provider of both local and long-distance telephone services to NPS is the Naval Computer and Telecommunication Station (NCTS), San Diego. The author was informed that NCTS could provide a list of phone numbers and extensions that were

identified as MWR. The intention was to trace each extension to the MWR program where it was used. Unfortunately, this data was not provided in the detail that was desired. Instead, the data received only had monthly total costs for long distance service and monthly equipment charges. Because of the inability to trace the costs, the reader will find these total monthly costs in Table 3-3 in the Grand Total column for communications but not allocated to programs. With the given data, MWR's communications costs totaled \$219 for the first half of FY 2000.

The fact that communication costs can be traced to each extension should make these direct costs. However, instructions from the QOL Program Manager specifically stated that communication costs are to be considered indirect costs.

The NPS Supply officer noted that, due to recent problems with the service received, NPS has decided to stop using NCTS and begin using a local carrier for all telephone services (except DSN). At present, however, a new provider has not yet been chosen. Despite the impending switch, the new carrier should be able to provide the same cost data as NCTS.

#### **4. Contracts**

The two contracts concerning MWR are the custodial and refuse contracts. Both are firm fixed-price contracts, meaning that costs of the contracts are based on a specified level of service.

The custodial contract is with Hope Rehabilitation Services. The negotiated price of \$1.46 million for the current year was based on several factors, including square footage and the frequency of services provided. Since Hope used square footage as the

MWR activity	code	Sqftg	% Sqftg	Contract Cost	Avg Cost/ month
NPS		1018367	1.00	\$ 1,370,000	\$ 114,167
Fit Ctr / Gym	A02	21538	0.02115	28,976	\$ 2,415
Mgmt Overhead	A10	2000	0.00196	2,685	\$ 224
CDC	B01A	17032	0.01672	22,906	\$ 1,909
School Age Care	B01D	1500	0.00147	2,014	\$ 168
ITT	B02E	1500	0.00147	2,014	\$ 168
Golf Course	C07C	4792	0.00471	6,453	\$ 538
COMO*	C06	25098	1.00	\$ 20,980	\$ 1,748
Others	non-MWR	71982	1.00	\$ 67,016	\$ 5,585
* The cost for the COMO is 1.4042% of the total cost of the custodial contract (\$1,457,996). This percentage is used to charge COMO each month.					

Table 3-4. Monthly Charges for Custodial Contract

main driver of its costs, the author also used it to allocate MWR's portion of the contract costs. The next step involved identifying all the buildings covered in the contract as well as the square footage to be cleaned in each of those buildings. Once this was done, the square footage for each MWR program was determined based on the areas cleaned, and the percentage of the total area was calculated and used to allocate the cost of the contract (refer to Table 3-4). Since the contract is renewed yearly, the allocated cost was divided by twelve to arrive at a monthly cost for each program. Those monthly costs are shown in the maintenance and repair lines of Table 3-3. It should be noted that the custodial costs for the COMO were separately identified in the contract, and thus no allocation was needed for it.

The refuse contract is with the City of Monterey Waste Management Division. The fixed price of \$280,725 was based on the number of containers (dumpsters), the capacity of those containers, and the frequency that each container was emptied. All of these factors were used to calculate a flat rate of \$13.39 per cubic yard (CY) of refuse



removed. This rate was used to calculate the costs for dumpsters at or near MWR facilities. If an MWR program shared a dumpster with NPS or another tenant, an estimate of that program's refuse production was used to allocate the cost associated with that dumpster. For example, the dumpster located at building 228 receives refuse from the gymnasium, the fitness center, and Glasgow Hall, an academic building. The costs for this container were divided between NPS and MWR, with NPS paying more because the amount of garbage generated by the Glasgow Hall is greater than the amounts from the fitness center and gym.

#### **B. COLLECTING ALL INDIRECT COSTS IN ONE WORKSHEET**

As previously mentioned, once all of the indirect costs had been calculated for each MWR program, a new Excel worksheet was made to collect and display them in a format that was easy to use for MWR. Table 3-3 is this worksheet.

The indirect costs calculated for each program were referenced to cells in their respective worksheets. For example, the maintenance costs under the Gym/Fitness Center (A02) are referenced directly to the MWR maintenance worksheet. If any changes are made to the maintenance costs for A02 during any month in the maintenance worksheet, that change is automatically reflected in the MWR breakout worksheet.

#### **IV. APPLYING ABC TO MWR**

The indirect support costs for MWR have been calculated, and the full cost of running each activity is known. Now these costs can be used in an ABC analysis of MWR.

##### **A. ACTIVITY-BASED COSTING**

The recent trend in the wake of DOD downsizing has been for organizations to find ways to do more work with fewer resources. This has led activities and organizations to re-evaluate the way they do business, looking closely at their effectiveness and efficiency to calculate their “bang for the buck.” One of the tools being used in these analyses is ABC.

As a refresher, the definition of ABC being used in this thesis is stated again:

[A] method of assigning *indirect costs*, including nonmanufacturing overhead costs, to products and services. ABC assumes that almost all overhead costs are associated with activities within the firm and vary with respect to the drivers of those activities. [Ref. 2:p. G-4]

The following discussion explains two important parts of this definition with respect to this thesis: indirect costs and cost drivers.

##### **1. Indirect Costs**

Indirect costs are defined as “costs of production not easily associated with the production of specific goods and services; overhead costs” [Ref. 2:p. G-50]. A more simplified way of saying this is “a cost that cannot be easily and conveniently traced to

the particular cost object<sup>5</sup> under consideration” [Ref. 10:p. 59]. For example, NPS currently has a contract with Hope Janitorial Services. They clean multiple buildings, including the fitness center and Herrmann Hall as well as all the academic buildings. While MWR is a recipient of these services so are many other tenants, making it difficult to directly trace the costs of the services to any one MWR activity. MWR should be allocated a portion of the contract cost on the basis of square footage [Ref. 11:p. 7-113]. Then MWR could take that cost and allocate it to its activities, again based on square footage.

## 2. Cost Drivers

A major reason for the move toward ABC is that ABC reflects resource usage more accurately than a broad allocation base by identifying the cause(s) of costs, which are called cost drivers in ABC terminology. To better understand what cost drivers are, two other ABC concepts are introduced here: activity and process. The relationship between these three notions forms the basis of ABC, as described in the following paragraphs:

Three basic concepts are important in thinking about designing systems that focus on costing the appropriate tasks or activities: *activity*, *driver*, and *process*. An *activity* is a task performed in the organization that can be assigned costs (e.g., labor hours of task x cost per hour = cost of task). Examples of tasks are designing, order entry, and machining of parts.

The second concept that is important is that of the *driver*, a generator of a cost or activity. A driver can be thought of as an event or decision. Drivers are not activities. Examples of drivers are customer commitments, decisions on employee training, material shortages, and missed schedules.

---

<sup>5</sup> A *cost object* is the final good or service created as a result of the performance of an activity. For a cost to be traced to a cost object such as an individual product line, the cost must be caused by the cost object.

Activities are associated with each driver, and therefore costs are associated with each driver.

The third concept of importance is process. A *process* is a chain of drivers (e.g., incomplete design → engineering changes → material shortages → missed schedules). The drivers associated with activities and, as a consequence of activities, with costs. The result is the cost impact of decisions and events within the process. [Ref. 1:p. 40]

Simply stated, a *cost driver* causes costs to be incurred. In relation to MWR, a cost driver could be the number of people using MWR's services on a daily basis.

## **B. NPS COST ALLOCATION METHODS**

Although ABC may be an effective way of assigning costs to the activities that are responsible for causing them, it is not the cost allocation method being utilized by NPS. As an example of current practices, the following discussion explains the existing allocation methods for electricity costs.

To begin, NPS purchases electricity from two sources: New Energy Ventures (NEV) and Pacific Gas & Electric (PG&E). NEV provides the vast majority of electricity to the NPS main station, the Golf Course/ LAB-REC area, La Mesa Village, and FNMOC. Each of these four areas has an NEV meter. PG&E services twelve peripheral buildings/areas, each having its own meter.

Some NPS tenants are fortunate enough to occupy their own facility (i.e., the tenant is the sole occupant) *and* have a PG&E meter that is dedicated to measuring the electric usage of that particular building or area. Allocating costs in this situation is easy because all the costs shown on the electric bill for that meter are charged to that tenant. If two or more tenants occupy the same facility, the costs are allocated on an agreed-upon basis, usually square-feet.

On the NPS main station there are a few tenants that do not have their own NEV meter but do have a Navy meter which is “downstream” from the NEV meter. The Navy meter allows for the measurement of electrical usage for all the facilities that are serviced by the Navy meter. Two problems exist with using Navy meters to allocate the electric costs. The first is that the Navy meter must be read on the same day as the “upstream” NEV meter. If the meters are read even one day apart, the comparability of the two readings will be skewed. The second problem is that the NEV meters measure both volume and time-of-use (NEV charges different rates for electricity depending on the time of day) while the Navy meters can only measure usage. Thus it must be assumed that “the proportion of the total usage consumed during each rate period by the Navy-metered user(s) is the same for the [NEV] meter as a whole” [Ref. 12:p. 12].

For tenants who do not have any type of meter except for one of the four NEV meters, PW Engineering Department provides an engineering estimate for the costs.

### **C. EXAMINATION OF OTHER MWRs**

In order to get a better grasp as to what the indirect support costs for MWR at NPS might be, indirect cost information was obtained from other MWRs. This information was not used to “fill-in-the-blanks” by transposing the data from one quarterly report to another. Rather it provided an estimate of the level of indirect costs incurred, based on that particular MWR’s patron base and the programs it runs. The specific MWRs from which the data was obtained provided it anonymously because

those MWRs are undergoing Commercial Activity (CA) studies and the administrators do not want to leak cost data to outside sources.<sup>6</sup>

The QOL Programs Manager provided FY 1999 data for one MWR within the claimancy, which includes NPS. She felt that a full fiscal year provided a better estimate of costs than the quarterly execution reports and thus sent her most recent data for a full fiscal year. The data for the MWR that is being used for comparison (we'll call it MWR #2 from now on) does have some underlying differences from MWR at NPS. First, the patron base for MWR #2 is approximately 63,000 versus only 18,000 for MWR at NPS. The main difference in these numbers is the number of retirees (47,000 vs. 6,000) and the number of active duty personnel (6,800 vs. 1,800). However, the reason for using MWR #2 as a comparison is that the budget for MWR #2 is only \$300,000 less than MWR at NPS, mainly because of the different services being offered. Other MWRs within the claimancy were much larger and comparing their data would not have provided as accurate an estimate as the data from MWR #2.

For FY 2000, MWR at NPS has a budget of \$1.81 million. For the first half of the fiscal year, MWR has incurred a total of \$154,499 in indirect costs. Assuming that the budget is executed on a regular basis throughout the year (meaning that about \$900,000 is spent per six months) those indirect costs account for 17.0% of budget execution during this time. For MWR #2, the percentage of indirect costs to total budget execution is about 13%. The QOL Programs Manager had suggested that indirect costs should be in the neighborhood of 15% of total budget execution, and one can see that both MWRs are close to that estimate.

---

<sup>6</sup> CA studies (also known as A-76 studies) are a very involved process, which ultimately determines whether or not a service, program, or activity should be outsourced to a civilian contractor.

#### D. MEVATEC STUDY

MEVATEC is a private corporation that specializes in conducting ABC analyses for companies and organizations. The Naval Postgraduate School hired MEVATEC to do ABC analyses on the school and all the tenants and RCs. During the time that the author was gathering cost data and developing the "Utility Cost" spreadsheet so that the indirect costs could be determined, MEVATEC was providing guidance to MWR so that MWR could develop its own internal surveys to use with all MWR personnel. However, the actual ABC analysis on MWR has yet to be completed because MWR is doing their ABC study "in-house." MWR is using their survey results and Fast Track 4.0, an ABC software program developed by MEVATEC, but they are only sporadically using MEVATEC personnel to guide the ABC study along. Several steps must be taken to finish the study, the most significant of which is identifying what the *output measure* (i.e., MEVATEC's term for cost driver) will be for each activity listed. The other steps that must be taken are 1) tracing costs to activities, and 2) finding the appropriate data for each cost driver so that a cost per unit can be determined.

To illustrate the above discussion, the activity of "Supervise and manage staff" for MWR categories A and B is used because MWR has identified the cost driver as the number of staff.<sup>7</sup> The activity cost was calculated to be \$73,335. This cost was determined by 1) summing all the time percentages spent by MWR personnel performing this activity (354%), 2) dividing that by the number of employees who completed surveys (40), and 3) multiplying by the total cost for salaries and wages (\$828,645), which was one of two cost identified for supervising and managing staff (the other being utilities,

---

<sup>7</sup> MWR is separating its category A and B programs from its category C programs in their ABC analysis because of the different sources of funding.

but that data has not been entered into Fast Track 4.0 yet). MWR decided the best cost driver for this activity was the number of staff. Since MWR identified fifty-two staff members employed in category A and B programs, the unit cost is \$1,410 per staff member (\$73,335/52). All calculations are done by Fast Track 4.0, but an authorized MWR employee must enter in the raw data.

The author reviewed the results of the MWR surveys to aid him in making recommendations for viable output measures for each of the activities. The remainder of this chapter will focus on these cost drivers.

#### **E. COST DRIVERS FOR MWR**

Determining the various activities that would be used for the ABC analysis was the next step. MWR decided that the best way to identify the activities they perform was to use the duties found in the *MWR Manager's Desk Reference* [Ref. 13]. For example, Duty #3 in the desk reference is "Develop Programs/Plans of Action." The MWR administrators modified this title (as well as most others), renaming it "Planning Programs and Services" to better suit what they felt occurred at this MWR. Once the activity names had been established, a description of the tasks performed in each activity was listed beside it. Then MWR conducted its personnel surveys by giving each employee a survey that showed the activity name and its description. The employees were then asked to estimate the amount of time they spent performing tasks in that activity. The results were entered into Fast Track 4.0, but, as noted before, this is as far as MWR has reached in their ABC study.



In the following discussion, the author describes in detail what exactly occurs in each of the activities identified by MWR and recommends the most suitable cost driver for each activity. The information in Table 4-1 summarizes this discussion.

## **1. Planning Programs and Services**

Planning programs and services deals with what amounts to administrative issues concerning the various MWR programs and services. Planning programs and services has many aspects, one of which is assessing competition in the local area when deciding whether or not to actually perform a program or service. An example of this is the arrangement MWR has with the Monterey Sports Center, which gives military members access to its indoor swimming pools for a nominal fee and allows MWR to avoid the high costs of building its own indoor facility.

Strategic planning is also a part of this activity. In this area, personnel set short and long-term goals for their programs. These goals aid in the planning and development of the more routine events and services, such as the monthly events held at the youth center in La Mesa Village. Special events, such as weddings and the Navy Ball, require additional planning.

Since the amount of planning that occurs is mostly dependent on the size of the program (i.e., patron attendance), the cost driver that best suits this activity is MWR's patron base. Because MWR keeps a record of patron usage at all of its programs and services, accurate data is available for determining a cost per patron.

Activity Name	Description	Cost Driver Recommendations
Planning programs and services	Planning activities and services Planning special events Attending meetings related to planning	# of patrons served
Implementing programs and services	Delivery of programs (i.e., selling tickets in ITT, providing customer service to gym patrons, etc.)	# of patrons served
Marketing programs and services	Developing flyers Advertising/promoting programs	# of people who participate in program
Evaluating programs and services	Evaluation of program/services Response to customer comments	# of evaluations
Supervise and manage staff	Initiate personnel action Announce/fill vacancies Indoc/train/develop staff Prepare schedules Monitor/reward/discipline Performance appraisals Safety program & reporting Direct supervision of employees	# of staff
Administration oversight	Respond to CoC special interest items Review messages, correspondence, documents, directives, instructions, etc. Prepare correspondence Develop internal policies/procedures	# of documents reviewed or Fixed monthly rate
Food: Clean up	Clean/sanitize dishes/equipment, facility	# of patrons served
Food: Package and plate	Building displays, Serving line Plating/boxing for catering	# of patrons served
Food: Set up	Prepare tables, Serving trays Stock line	# of patrons served
Budget: Prepare and monitor	Prepare documents for NAF budget Prepare documents for APF budget input Monitoring NAF/APF budget execution Analyze financial statements Evaluate fees and charges Monitor internal control processes	# of budget exhibits to prepare and review
Accounting: prepare and process documents	Process time cards Process APF and NAF source documents Prepare/review financial statements Prepare quarterly/annual reports Prepare/monitor contracts	# of source documents processed
Procure supplies and equipment	Complete purchasing documents Receive orders, Inventory supplies Issue supplies and equipment	# of purchase orders processed
Manage facility and equipment	Inspect facility Manage facility renovation/bldg contracts Facility maintenance Maintaining equipment inventory	Fixed monthly charge
Other	Anything not mentioned above	Dependent on activity

Table 4-1. Cost Driver Recommendations for MWR

## **2. Implementing Programs and Services**

This activity focuses mainly on what actually occurs in each program— personnel providing services to patrons. For instance, the ITT office sells tickets for a variety of things, including amusement parks, professional sporting events, and movie theaters. The fitness center provides athletic facilities and fitness classes. The COMO serves meals, while the golf course offers an affordable eighteen holes. For a vast majority of MWR personnel (73 out of 125), this activity consumes some portion (or in a few cases *all*) of their time during the workweek.

Regardless of the program, it is the patron base that causes MWR to offer these programs and services. MWR responds to patron demand for programs and services, incurring the costs of their implementation when the demand reaches a level that will justify the costs. Therefore, the best cost driver for this activity is the patron base of each respective MWR program.

## **3. Marketing Programs and Services**

MWR regularly promotes its programs and services. MWR personnel noted that most of their advertising/marketing efforts take the form of flyers that are distributed to all MWR programs on a monthly basis for regularly scheduled programs and as needed for special events. However, flyers are not the only part of marketing. Personnel involved in this activity also create and maintain the public images of programs, as well as evaluate the effectiveness of their marketing efforts by monitoring patron usage.

The cost driver for marketing is not as definitive as for the prior two activities. One possibility is the number of promotions per year, since costs for any promotion are

relatively equal regardless of expected patron turnout. Therefore, a cost per promotion may be the best choice. On the other hand is the number of patrons who participate in the advertised program. This measurement represents, to some extent, the effectiveness of the marketing effort and thus would provide MWR with information on how well they advertising their programs and services. This latter alternative seems to be the better of the two.

#### **4. Evaluate Programs and Services**

The evaluation of programs and services is different from the evaluation of the marketing activity explained above. Here, the focus is on the programs themselves. In order to properly evaluate a program, MWR personnel must develop an evaluation plan, choose the measures to be evaluated, collect and analyze the data, and make any necessary changes to improve a program based on the analysis of the data. Customer comments are also used in evaluating a program.

This activity appears to be a time consuming process, but, of the fifteen employees that perform this activity, none spends more than thirty percent of their time doing it; and thirteen spend ten percent or less. The possibility of using labor hours spent on this activity as the cost driver is feasible but would likely result in extra work for the personnel concerned, as they would have to keep track of the hours spent evaluating programs and services. A more suitable cost driver is the number of evaluations conducted/received, since the same basic steps have to been taken regardless of the program being evaluated.

## **5. Supervise and Manage Staff**

A broad range of tasks is included in the activity of supervising and managing the MWR staff. The duties performed are those of the typical middle and upper manager. This activity involves training and developing the current staff, monitoring and improving staff performance on a daily basis, as well as conducting semiannual performance appraisals on each employee. Supervising and managing staff also calls for setting goals and objectives, motivating employees toward those goals and objectives, offering incentives to quickly attain promotions, rewarding employees for superior work, and disciplining personnel for inappropriate actions or behavior.

In addition, this activity entails developing and maintaining a staffing strategy (basically a system that prevents MWR from being short-handed), announcing and filling position vacancies that are paid with NAF, and then indoctrinating the new staff members to their job and to MWR's mission. (Filling APF position vacancies occurs at a higher level of MWR). Other responsibilities include preparing work schedules, ensuring the workplace is free of harassment and discrimination, and responding to accidents and injuries that occur in MWR facilities. Since the common link between all of these various tasks is the MWR employee, the logical choice for a cost driver in this activity is the number of employees.

## **6. Administration Oversight**

This activity deals with tasks that provide overall guidance to MWR, and the administrators have identified five main areas within this activity. The first entails reviewing messages, correspondence, documents, directives, instructions, and notices to

see if they are applicable to MWR and, if so, to make sure MWR is in compliance, or informing all necessary MWR personnel if not. The second area involves preparing official MWR correspondence with other entities (i.e., writing letters and sending emails and faxes in the proper format). Another responsibility for personnel in this activity is the development of internal policies and procedures, the basic guidelines that MWR personnel are expected to follow. These personnel also have the responsibility of locating, maintaining, interpreting, and applying official policies and instructions. Finally, personnel that oversee administration respond to DoD special interest items, such as congressional data calls for specific MWR programs. MWR at NPS went through such a data call for the golf course when congress was debating whether the government should be in the business of running golf courses (no conclusion has been reached yet).

Determining a cost driver for this activity is challenging, as the costs of the tasks performed could be considered administrative overhead costs. Underneath all the tasks, the main activity is always related to some sort of document, whether it is a single-page notice or a multi-volume instruction set. From this, the best cost driver appears to be the number of documents reviewed, referenced, written, etc. However, keeping track of the number of documents in MWR is quite formidable, as it would be very time-consuming to perform such record keeping. A viable alternative would be to simply calculate and apply a fixed monthly charge for administration oversight.

#### **7. Food: Set up, Package and plate, Clean up**

One would expect that all the jobs and tasks associated with COMO would fall under one activity. However, MWR decided to divide its food service into three

activities so they could examine how labor costs affect them. The COMO currently employs 57 people, and MWR wants to take a close look at “right-sizing” it.

All of the jobs in food service are labor intensive. Only humans are really capable of performing them. From this, one might deduce that labor hours of COMO employees would be the best cost driver for all three activities, but a closer look at the tasks of each activity reveals that a better suited cost driver exists.

In food set up, employees prepare the tables with tablecloths, centerpieces, and salt and pepper shakers. They also prepare the serving line by stocking it with clean trays, plates, dishes, utensils, and glasses. The amount of set up varies with the meal of the day being served— breakfast, lunch, or dinner. The highest volume of customers occurs during the lunch hour, so that meal requires the most preparation. Because MWR keeps a record of the number of customers at each meal and the fact that the amount of set up is based on the expected patronage, the number of patrons served would be the best cost driver (i.e., set up cost per patron).

Packaging and plating involves the actual serving of food to the customer. This occurs in the serving line in the COMO. Plating and boxing food for catered events also falls under this activity. Building special aesthetic displays for the COMO and catered events is considered part of packaging, too. After examining these tasks, the most suited cost driver for this activity is, again, the number of patrons served because most of the time in this activity is spent serving the customer. Using the number of catered events could provide useful cost information, but the size of the event is really what drives the costs. The number of displays built was not identified as a major cost driver.

Cleaning up after meals involves clearing the tables of dirty dishes, washing and sanitizing the tables, loading and unloading the dishwasher, cleaning all the equipment used to prepare the meal, and sweeping the floors. Like set up, the amount of clean up depends on which meal of the day is being served because the expected patronage is different for each meal. Thus the number of patrons served is once again the recommended cost driver.

#### **8. Budget: Prepare and Monitor**

This activity focuses on the tasks involved with developing the annual budget for MWR as well as tracking budget execution during the year. Each MWR program develops its own budget and then forwards it to the MWR financial administrator, who reviews each budget and creates a single cumulative budget submission. Because MWR uses both APF and NAF to run its programs, two types of documents must be prepared, one which projects NAF costs and one which estimates the costs of providing programs that are supported by APF. Budget submissions are a time consuming process, but they only occur once a year for a period of about 40 days. Once MWR actually receives its budget for the year, it must be monitored closely to ensure that the appropriate funds are spent on the appropriate programs. Personnel involved in this activity also analyze MWR financial statements as well as evaluate fees and charges to make sure MWR is not being overcharged and purchases made were authorized.

Despite the fact that budget submissions only occur once a year, the time spent preparing of the documents appears to be the main cost driver for this activity. Although requiring personnel to keep a log of the time they spent preparing and monitoring the



budget may provide the most accurate information, it would cause employees to spend extra time calculating their hours. A simpler way of determining the costs may be to use the final documents (budget exhibits) as the cost driver, which would result in a cost per budget exhibit.

#### **9. Accounting: Prepare and Process Documents**

Accounting is not the same as preparing and monitoring the budget. Accounting deals more with the day to day financial operations of MWR. Some of the functions of the accounting activity include controlling receipts and cash, managing the petty cash and change funds, preparing and reviewing financial statements, and preparing quarterly/annual reports. Other tasks involve closing-out the daily financial transactions and processing time cards and source documents.

Looking at the title of this subsection, MWR has already determined what occurs in this activity—the preparation and processing of financial documents. Thus the likely cost driver should be the number of financial documents prepared and processed, but there is a variety of documents, and one can be almost certain that, for example, the time it takes to prepare and process a time card is much less than for a quarterly report. However, considering that time cards and other source documents get processed on the most frequent basis in accounting, using only the number of source documents processed as the cost driver does not seem unreasonable.

## **10. Procure Supplies and Equipment**

For MWR, the activity of procuring supplies and equipment not only encompasses procurement, but it includes the tasks of receiving and inventory control as well. Personnel that perform procurement tasks receive purchase requests from the various MWR programs, review the request, check to make sure necessary funds are available, and authorize or deny the purchase. Personnel who receive the supplies take an inventory of the shipment to make sure what was received matches what was ordered. The supplies are then put in inventory, which is monitored by other MWR personnel who track usage and submit purchase orders when the inventory level gets low.<sup>8</sup>

If this activity were strictly a purchasing department, the cost driver would be the number of purchase orders processed. Likewise, if this were solely a receiving department, the cost driver would be the number of shipments received. Furthermore, if this were only a supply department, the number of different items stocked in the inventory or the number of times inventory is taken are two possible cost drivers.

However, this activity is a combination of these three departments, but only one costs driver can be selected. The submission of a purchase order normally is a result of an inventory of supplies, where the level of a particular item had reached its reorder point. The approval of that purchase order will generate work for the personnel who receive supplies as well as the people who monitor the inventory. Thus the number of purchase orders processed is the recommended cost driver for the activity of procuring supplies and equipment.

---

<sup>8</sup> This is just a description of the tasks that MWR identified as occurring in the activity of procurement. Although it is not described above, there is proper separation of powers that prevents MWR employees from stealing or committing fraud.

## **11. . Manage Facilities and Equipment**

The tasks involved in this activity all deal with physical plant, property, and equipment. Personnel perform such tasks as facility inspections, checking for wear and tear on buildings and equipment that requires repair and then either performing the maintenance work internally or getting someone externally who can (i.e., PW or a commercial contractor). Managing facilities and equipment also entails managing building/renovation contracts, making sure the contractor is performing the work agreed upon in the contract and not adding extraneous charges to bill. Another task of this activity is maintaining an equipment inventory, which really involves overseeing vehicle maintenance and use, scheduling the use of MWR facilities, equipment, and vehicles, and ensuring the proper disposal of MWR equipment and vehicles, preventing theft of government property.

Determining the cost driver for this activity would be easier if one could separate the costs associated with facilities from those associated with vehicles. Then two cost drivers could be used—the number of facilities and the number of vehicles. The reason for wanting to separate them is that the costs associated with maintaining vehicles is different from the costs to maintain facilities and other equipment. Attempting the use an all-inclusive cost driver (i.e., the total number of facilities and vehicles) would result in a cost per unit that would likely be much too large for individual vehicles and too small for facilities. Unfortunately, that separation cannot be done here, and therefore, the next best alternative is to use a fixed monthly charge as each of the above tasks is performed on a regular basis.

## **F. COST DRIVERS FOR THE CDC**

Special attention was given to the Child Development Center (CDC) in La Mesa Village. A separate ABC study is being conducted there as some of the jobs and duties those personnel perform differ from the other areas of MWR. The following discussion deals only with the areas that differed from the ABC study of all other MWR programs. The activities not mentioned are nearly identical to those discussed previously, and thus further discussion of these activities would be repetitious. Table 4-2 provides a complete summary of the CDC's activities, their descriptions, and the recommended cost drivers.

### **1. Planning Child Care Services**

At the CDC, planning programs and services takes on a whole new dimension because the patrons are now children, ranging in age from 1 to 9 years old, and the programs and services need to be tailored to meet the needs of different age groups. Specific tasks in this activity include attending training meetings on how to deal with children, preparing games and activities, and preparing lesson plans for the older children. CDC personnel also prepare the classroom environment, which involves displaying educational posters, arranging rooms so they are conducive to learning, and removing dangerous object that may be in the rooms so the children are safe from injury.

The amount of preparation and planning that goes into this activity really depends on the number of children that are receiving care. Since the CDC is capable of identifying costs for each age group, the most accurate cost driver for each are group is the number of children in that age group.

Activity Name	Description	Cost Driver Recommendations
Planning child care services	Planning activities for children Planning child care program related work (i.e., attending training, preparing classroom environments, etc.)	# of children per age group
Implementing child care services/programs	Providing direct care for children Providing customer service to patrons	# of children per age group
Marketing/Promoting child development programs	Developing flyers Advertising/promoting programs	# of children who participate in program
Evaluating child development program services/events	Evaluation of program planning and activities/services provided	# of evaluations performed
Supervise and manage staff	Initiate personnel action Announce/fill vacancies Indoc/train/develop staff Prepare staff schedules Manage staff leave Performance appraisals Employee recognition/discipline	# of staff
Administration oversight	Respond to CoC special interest items Review messages, correspondence, documents, directives, instructions, etc. Prepare correspondence Develop internal policies/procedures	# of documents reviewed or Fixed monthly rate
Production of food service	Menu planning, Food preparation/packaging, Clean up	# of people served
Delivery of food service	Set up for food service delivery/transport Transport/deliver food services Serving food	# of children per age group
Budget: Prepare and monitor	Prepare documents for NAF budget Prepare documents for APF budget input Monitoring NAF/APF budget execution Analyze financial statements Evaluate fees and charges Monitor internal control processes	# of budget exhibits to prepare and review
Accounting: prepare and process documents	Process time cards Process APF and NAF source documents Prepare/review financial statements Prepare quarterly/annual reports Prepare/monitor contracts	# of source documents processed
Procure supplies and equipment	Complete purchasing documents Receive orders, Inventory supplies Issue supplies and equipment	# of purchase orders processed
Manage facility and equipment	Inspect facility Manage facility renovation/bldg contracts Facility maintenance Maintaining equipment inventory	Fixed monthly rate
Other	Anything not mentioned above	Dependent on activity

Table 4-2. Cost Driver Recommendations for the Child Development Center

## **2. Implementing Child Care Services and Programs**

This activity consists of jobs and tasks that deal directly with providing care for children. Personnel are in the rooms with the children, running the planned activities and tending to the needs of the children. For personnel working with young babies, their tasks include holding and rocking the babies, feeding the babies with bottles, changing their diapers, and most other duties that a mother of a baby would do.

The personnel who work with the remaining age groups find that their tasks in this activity are relatively the same. They play games (both educational and entertaining) with the children, read stories to them, promote cooperation between children by intervening when they become angry with others, and oversee outdoor recess time.

Implementing child care services and programs is the most time-consuming activity performed at the CDC. Of the thirty-five CDC employees, thirty-four spend some part of their time implementing child care, and twenty-nine employees said this activity takes up fifty percent or more of their time. These statistics point toward employee labor hours as the cost driver for this activity. However, the CDC administrators want to establish a connection between the resources spent and the number of children that are the recipients of those resources. With this in mind, the most suitable cost driver that would provide the link they are looking for is, again, the number of children in each age group.

## **3. Evaluating Child Development Programs, Services, and Events**

Like the evaluations that are conducted for all other MWR programs, the focus is on the programs and services that the CDC provides. However, the sources for the

evaluations are different because a child cannot be expected to provide the information that CDC personnel need. Instead, the evaluations come from parents who are asked to provide feedback about programs, as well as the employees who actually work in the programs and can offer suggestions for changes and improvements.

Since the tasks that underlie this activity are not fundamentally different, the cost driver recommended for this activity should be the same one recommended for evaluating all other MWR programs and services— the number of evaluations performed.

#### **4. Food Service: Production and Delivery**

The CDC provides meals to the children and its employees. Like the COMO, the CDC has decided to separate various aspects of the food service activity because they are investigating the possibility of outsourcing some or all of this activity and thus need to know the costs associated with these activities.

The CDC administrators determined that food service could be condensed into two areas: production and delivery. Production involves tasks like planning the menu for the coming week, preparing the food (i.e., cleaning, cooking, slicing, peeling, etc.), packaging the food, and cleaning up the kitchen after the meal has been served. The amount of time and effort spent performing these jobs is dependent on the number of meals prepared, which is a direct result of the number of children and employees being served. Therefore, the cost driver should be the number of people served.

Delivery deals with serving the food to the children. Different age groups have different delivery needs. For example, infants and toddlers need to have their food delivered to their rooms, where as the kindergarten can-age kids can go to the kitchen and

go through a serving line with a tray. Basically, the amount of effort required for food delivery rises as the children get younger, and since the majority of the children are five years old or younger, there is a great deal of effort put into this task (i.e., setting up for the meals, transporting the meals, and delivering the meals to the children). Because the CDC can identify the costs associated with each age group, the best cost driver for this activity is the number of children in each age group.



**THIS PAGE INTENTIONALLY LEFT BLANK**

## **V. CONCLUSIONS AND RECOMMENDATIONS**

### **A. CONCLUSIONS FOR MWR**

The objective of this thesis was to identify the indirect support costs for MWR at NPS so that an ABC analysis could be conducted on MWR. The first part of this objective was accomplished by separating the indirect costs of MWR programs from the rest of NPS, its tenants, and its reimbursable customers. In most cases, an allocation base (such as square footage for electricity) was used to estimate these costs. Once these costs were determined, they were matched with the MWR program that incurred them.

The second part of the objective was to use this indirect cost information to continue the ABC study at MWR. However, MWR was not at a point where it could utilize this information in its study. Therefore, the next step toward completing the analysis was taken—determining suitable cost drivers for the activities identified by MWR, which was done by closely examining the tasks performed in each activity. The recommended cost drivers bring MWR one step closer to completing its ABC study.

#### **1. Finish ABC Study**

The MWR administrators need to begin pushing for the completion of the ABC study. MEVATEC personnel noted that it takes about three months for them to do an ABC study on an organization (if MEVATEC personnel are the ones that perform the work). This is not the case with MWR at NPS, though. MWR has already taken six months to get to the present situation, but there is still a long way to go. This means that the MWR personnel assigned to conduct the ABC study must start taking the necessary time to review the information that has been gathered thus far, determine what

information still needs to be collected, decide how they want to trace their costs to the various activities, and choose alternate cost drivers if they do not agree with the ones recommended in Chapter IV. Once MWR has taken these steps to complete the ABC analysis, the resulting information will be invaluable for making better-informed management decisions. Further research should be conducted in the area of tracing MWR's costs, both direct and indirect, to the activities identified in Chapter IV.

Also, MWR would like to perform ABC analyses on each of its programs, but, due to constraints placed on MWR by MEVATEC, this could not be done. MWR could only use a maximum of fifteen activity pools to capture the essence of all of their various programs, and since the COMO took up three of those activities, MWR was forced to consolidate tasks into broadly defined activities. Although MWR used broad activity names taken from the *MWR Manager's Desk Reference*, they know that, for instance, the activity of "Implementing Programs and Services" in the fitness center is different than in the ITT office. Further research could be conducted in this area as well.

## **2. Access to the Utility Cost Spreadsheet**

In order for the information generated by the utility cost spreadsheet to be of use to MWR, the MWR Financial Administrator needs to have access to this file because it contains the MWR indirect cost break out (Table 3-3). An arrangement between MWR and PW could easily be established, with MWR receiving limited access to the file. Since Public Works employees already input the utility costs into the spreadsheet, as well as track maintenance and repair costs in MAXIMO (which can generate queries in an Excel spreadsheet), PW is the logical choice for inputting the cost data for these two

areas. For communications costs, MWR should be responsible for entering them into the spreadsheet because the Financial Administrator receives and verifies the telephone bills (but does not keep it). As for contract costs, since these are fixed monthly charges, MWR accounting personnel can input them each month.

### **3. Access to Budget Execution Information**

As noted in Chapter II, the MWR Financial Administrator does not have access to the NPS Comptroller's database (FASTDATA) where MWR's budget execution is tracked. She has to maintain her own Excel spreadsheet to track budget execution (which is duplicating work done in the comptroller's office). Furthermore, MWR only gets a report of budget execution from the comptroller at the end of each quarter, meaning that any errors in recording budget execution may not be caught until then. If the MWR Financial Administrator had access to FASTDATA, even if its just on a "read only" basis, it would eliminate the duplication of effort in maintaining an internal spreadsheet. She could check her internal record (the accounting books) of budget execution against the comptroller's record in FASTDATA on a weekly basis, and thus any discrepancies would be found and resolved much more quickly.

Having access to the budget execution data is also valuable once MWR implements its ABC system. Monthly data could be gathered to monitor the effects of changes in the organization made by management.

## **B. CONCLUSIONS FOR PUBLIC WORKS**

During the process of developing the utility cost spreadsheet, it became apparent that not all of the allocations would accurately reflect the costs incurred. For example, tenants and RCs that occupied more square feet were allocated a greater portion of the electric and natural gas costs regardless of whether they might be a smaller user of these utilities. Further research should be conducted to examine ways of allocating utility costs more accurately, perhaps incorporating a usage factor into the allocations. Also the square footage and per capita data should be updated at least once a year to reflect any movements of tenants or RCs as well as changes in manpower.

With regard to maintenance and repair costs, more attention need to be given to entering work order information into MAXIMO, making sure that the location and the requesting activity are identified correctly. Also, PW employees should be made aware that the restrooms in the basement of Herrmann Hall are common use areas and any work done to them should be charged to NPS, not MWR.

## **APPENDIX A. MWR CATEGORIES**

### **Category A – Mission Sustaining**

MWR programs within this category promote the physical and mental well being of the military member, a requirement that supports accomplishment of the basic military mission. Also included are all consolidated support service functions such as accounting, procurement, or personnel services for one or more MWR activities, regardless of category.

Category A activities include:

1. Armed Forces professional entertainment programs overseas
2. Gymnasium/physical fitness/aquatic training
3. Libraries – general
4. Park and picnic areas
5. Recreation centers/rooms
6. Shipboard activities
7. Shipboard/isolated/deployed/free admission motion pictures
8. Sports/athletics (self-directed, unit level, intramural)
9. Single Sailor programs and recreation centers
10. Unit level programs and activities
11. Common support services (MWR G&A expenses)

Expenses incurred to provide Category A programs are authorized and should be 100 percent funded with appropriated funds. Fees are usually not charged in this category and thus limited revenues are generated.

### **Category B- Basic Community Support**

MWR Category B consists of MWR programs that satisfy the basic physiological and psychological needs of service members and their families. They closely support the military mission but differ from Category A activities because fees are usually charged for participation, generating some revenue. However, these activities are not expected to sustain themselves solely on this revenue, and thus Category B programs are supported by a mixture of APF and NAF.

Category B activities include:

1. Arts and crafts skill development
2. Automotive crafts skill development
3. Bowling centers (12 lanes or less)
4. Child development centers
5. Community recreation centers
6. Entertainment (music and theater)
7. Family child care
8. School-age care
9. Music, drama, and community theater programs
10. Marinas (without resale or private berthing)

11. Outdoor recreation including equipment checkout
12. Recreational swimming pools
13. Recreational information, tickets and tour services
14. Sports programs (above the intramural level)
15. Youth activities

### **Category C – Business activities**

These programs are highly desirable as a means of providing recreational activity with the attendant morale benefit. They have the best capability to generate revenue through the sale of goods and services to authorized patrons for use in specific morale programs. Therefore, Category C programs receive very little APF support.

Category C activities include:

1. Navy flying clubs
2. Amusement machines
3. Animal care
4. Academic bookstores
5. Bingo
6. Bowling centers (over 12 lanes)
7. Cabins/cottages
8. Catering
9. Golf course
10. Joint services facilities
11. Military clubs
12. Marinas – private berthing and/or resale
13. Motion picture (paid admission)
14. Package stores
15. Rod and gun clubs
16. Scuba clubs
17. Skating rinks
18. Snack bars/soda fountains
19. Stables
20. Temporary lodging facilities
21. Unofficial commercial travel services

## **APPENDIX B. COST ALLOCATION TABLES FOR UTILITY ACCOUNTS**

This appendix contains tables of every utility account and subaccount for NPS. They were generated from the utility cost Excel spreadsheet. A total of nine major accounts and thirty-one subaccounts are presented. Each table has the utility company, the major account number or name, the location being served, and the subaccount number(s) listed at the top. The rest of the table shows the allocation of the cost for each account and subaccount. In the cases of multiple subaccounts for a major account, the allocation for each subaccount is shown on a separate page. Each table also shows the costs for the first six months for FY 2000 (the actual Excel spreadsheets have all twelve months, but since there was no data for the second half of the year, those months were not included in these tables).

The tables grouped by utility, meaning that the all the tables showing electricity costs are together. Next are the tables for natural gas. Then there is water, and finally sewage. It should be noted that PG&E charges NPS for both electric and natural gas usage. Although they are different utilities, PG&E groups those costs together by the location being served. Thus the reader will find that the major accounts beginning with the letters JBT, NBT, and FBT are in both the PG&E electric and PG&E natural gas tables. However, all PG&E subaccounts are different.

On the following page is list of acronyms used by Public Works for the tenants and RCs of NPS.



COMO	Commissioned Officers' Mess (Open); now an All-Hands Club
Dental	Branch Dental Clinic
DIS	Defense Investigative Service; now called the Defense Security Service
DPS	Defense Printing Service
DRMI	Defense Resource Management Institute
FNMOCC	Fleet Numerical Meteorology and Oceanography Center
Housing	NPS Housing Offices and all homes in La Mesa Village
IDEA	Institute for Defense Education and Analysis
MWR	Morale, Welfare, and Recreation
NEXCOM	Navy Exchange Command
NFCU	Navy Federal Credit Union
NRL	Naval Research Laboratories
NWS	National Weather Service
PSD	Personnel Support Activity Detachment
ROICC	Resident Officer in Charge of Construction
TRAC	Training and Doctrine Analysis Command
USPS	U.S. Postal Service
QTRS A	Quarters A (Superintendent's house)
QTRS B-N	Quarters B through N
NPS	Naval Postgraduate School

PG&E Electric & Distribution					Mar	
Account & Sub-accts	Meter #	Location	Tenant(s)		usage	cost
<b>JBT SB 03131-5</b>		<b>Main Station</b>			30,720	2,841
QBM 97-20101	R64314	Radar, Salinas	NWS	Kwh	2,841	271
VBM-95-00071	27R246	Bldg 349	Supply	Kwh	1,510	149
VBM-95-00551	6T1208	SVC Station	NEXCOM	Kwh	5,840	536
VBM-95-01501	237R74	Ballfield	MWR	Kwh	11,840	1,008
VBM-95-02051	3569R7	Bldg 437	NPS	Kwh	1,800	165
VBM-95-02101	92R235	PW Complex	NPS	Kwh	4,880	467
VBM-95-00051	T50807	Bldg 514	NPS	Kwh	409	48
VBM-95-08113	324R30	Golf Course	MWR / NPS	Kwh	1,600	196

<b>NBT SB 03141-4</b>		<b>FNMO</b>			195,423	13,285
VBM-R6-07001	2028R2	FNMO	FMNOC/NRL	Kwh	121,983	8,325
VBM-95-08511	3557R2	FNMO	FMONC/NRL	Kwh	73,440	5,051

<b>FBT SB 03121-7</b>		<b>LMV</b>			0	85
VBM-M5-98001	monthly fee)	street lights	Housing	Kwh	0	85

PG&E Electric

Account: JBT-SB-03131-5

Subaccount: QBM-97-20101

Radar, Salinas

Billing Month:	MAR
	271

Monthly Bill	
Oct	395
Nov	293
Dec	220
Jan	211
Feb	289
Mar	271

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM

Monthly Bill	
Oct	395
Nov	293
Dec	220
Jan	211
Feb	289
Mar	271

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									395
									293
									220
									211
									289
									271

PG&E Electric

Account: JBT-SB-03131-5

Subaccount: VBM-95-00071

Building 349 (Supply Dept.)

Billing Month:	MAR
	149

Monthly Bill	
Oct	140
Nov	135
Dec	109
Jan	137
Feb	145
Mar	149

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM

Monthly Bill	
Oct	140
Nov	135
Dec	109
Jan	137
Feb	145
Mar	149

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									140
									135
									109
									137
									145
									149

PG&E Electric

Account: JBT-SB-03131-5

Subaccount: VBM-95-00551

NEXCOM Gas Station

Billing Month:	MAR
	536

Monthly Bill	
Oct	694
Nov	602
Dec	536
Jan	581
Feb	499
Mar	536

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM
									694
									602
									536
									581
									499
									536

Monthly Bill	
Oct	694
Nov	602
Dec	536
Jan	581
Feb	499
Mar	536

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS

PG&E Electric

Account: JBT-SB-03131-5

Subaccount: VBM-95-01501

Baseball Field

Billing Month:	MAR
	1007.78

Monthly Bill	
Oct	1510
Nov	1140
Dec	1157
Jan	1079
Feb	986
Mar	1008

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM

Monthly Bill	
Oct	1510
Nov	1140
Dec	1157
Jan	1079
Feb	986
Mar	1008

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									1510
									1140
									1157
									1079
									986
									1008

PG&E Electric

Account: JBT-SB-03131-5

Subaccount: VBM-95-02051

Transportation Complex

Billing Month:	MAR
	165

Monthly Bill	
Oct	501
Nov	433
Dec	206
Jan	199
Feb	139
Mar	165

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM

Monthly Bill	
Oct	501
Nov	433
Dec	206
Jan	199
Feb	139
Mar	165

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									501
									433
									206
									199
									139
									165

PG&E Electric

Account: JBT-SB-03131-5

Subaccount: VBM-95-02101

PW Complex

Billing Month:	MAR
	467

Monthly Bill	
Oct	1014
Nov	803
Dec	0
Jan	1575
Feb	693
Mar	467

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM

Monthly Bill	
Oct	1014
Nov	803
Dec	0
Jan	1575
Feb	693
Mar	467

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									1014
									803
									1575
									693
									467



PG&E Electric

Account: JBT-SB-03131-5

Subaccount: VBM-95-00051

Beach Lab (Bldg 514)

Billing Month:	MAR
	48

Monthly Bill	
Oct	72
Nov	51
Dec	41
Jan	55
Feb	48
Mar	48

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM

Monthly Bill	
Oct	72
Nov	51
Dec	41
Jan	55
Feb	48
Mar	48

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									72
									51
									41
									55
									48
									48

PG&E Electric

Account: JBT-SB-03131-5

Subaccount: VBM-95-08113

Golf Couse and Lab Area

Billing Month:	MAR
	196

Monthly Bill	
Oct	243
Nov	109
Dec	144
Jan	196
Feb	102
Mar	196

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM
								47	
								21	
								28	
								38	
								20	
								38	

Monthly Bill	
Oct	243
Nov	109
Dec	144
Jan	196
Feb	102
Mar	196

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									196
									88
									116
									158
									83
									158

**PG&E Electric****Account: NBT-SB-03141-4****Subaccount: VBM-R6-07001****FNMOCC/Annex**

Billing Month:	MAR
	8235

Monthly Bill	
Oct	12030
Nov	7813
Dec	10011
Jan	10356
Feb	8727
Mar	8235

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOCC	Housing	IDEA	MWR	NEXCOM
					7966				
					5173				
					6629				
					6858				
					5779				
					5453				

Monthly Bill	
Oct	12030
Nov	7813
Dec	10011
Jan	10356
Feb	8727
Mar	8235

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
	2915								1148
	1893								746
	2426								956
	2510								988
	2115								833
	1996								786

**PG&E Electric**

**Account: NBT-SB-03141-4**

Subaccount: VBM-95-08511

FNMOC/Annex

Billing Month:	MAR
	5051

Monthly Bill	
Oct	8140
Nov	5839
Dec	4893
Jan	5000
Feb	4584
Mar	5051

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM
					5390				
					3867				
					3240				
					3311				
					3035				
					3345				

Monthly Bill	
Oct	8140
Nov	5839
Dec	4893
Jan	5000
Feb	4584
Mar	5051

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
	1973								777
	1415								557
	1186								467
	1212								477
	1111								438
	1224								482

PG&E Electric

Account FBT-SB-03121-7

La Mesa Village

Subaccount:

VBM-M5-98001

85.26

Billing Month:

MAR

85.26

Monthly Bill	
Oct	85
Nov	85
Dec	85
Jan	85
Feb	85
Mar	85

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM
						85			
						85			
						85			
						85			
						85			
						85			

Monthly Bill	
Oct	85
Nov	85
Dec	85
Jan	85
Feb	85
Mar	85

Tenant Charges									
NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS

**PG&E Electric Distribution  
Accounts & subaccounts**

(Fixed monthly fees)

	Monthly charge	Tenant Charges									
		COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM
FNMO											
UBM 9014531											
UBM-6133612-8	14.57						9.65				
La Mesa											
UBM 9014507											
UBM 6133609-5	89.10						88.12				
UBM 9014499											
UBM 6133608-7	1157.00							1144.32			5.04
UBM 9014523											
UBM 6133611-0	111.25							110.03			0.48
UBM 9014515											
UBM 6133610-2	1067.99							1056.28			4.65

	Monthly charge	Tenant Charges									
		NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
FNMO											
UBM 9014531											
UBM-6133612-8	14.57		3.53								1.39
La Mesa											
UBM 9014507											
UBM 6133609-5	89.10		0.39								0.58
UBM 9014499											
UBM 6133608-7	1157										7.59
UBM 9014523											
UBM 6133611-0											0.73
UBM 9014515											
UBM 6133610-2											7.01

New Energy Ventures Electric					Mar	
Account & Sub-accts	Meter #	Location	Tenant(s)	units	usage	cost
VBMT 500701	AA000656	Main Station	NPS & RCs	kwh	1,282,201	72,622
VBMT 500801	AA000655	Golf Course	NPS & MWR	kwh	67,841	7,047
VBMN 518601	AA000/400, 541, 600	LMV	ousing & NPS	kwh	442,309	27,493
VBMR 612001	AA000583	FNMOC	NPS & NRL	kwh	911,541	49,034

Account: NEV Electric

Subaccount: VBMT 500701 (Main Station)

Billing Month:	MAR
	72622

Monthly Bill	
Oct	99632
Nov	76252
Dec	74445
Jan	72809
Feb	67956
Mar	72622

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM
1852	449	274		1568		7951	467	995	5053
1417	344	210		1200		6085	357	762	3867
1384	335	205		1172		5941	349	744	3776
1353	328	200		1146		5810	341	727	3693
1263	306	187		1070		5423	319	679	3446
1350	327	200		1143		5795	340	725	3683

Monthly Bill	
Oct	99632
Nov	76252
Dec	74445
Jan	72809
Feb	67956
Mar	72622

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
178			453		316		372	2567	77137
136			347		242		285	1964	59036
133			338		236		278	1918	57637
130			331		231		272	1876	56370
121			309		215		254	1751	52613
130			330		230		271	1871	56226



Account: **NEV Electric**  
 Subaccount: VBMT 500801 (Golf Course)

Billing Month:	MAR
	7047

Monthly Bill		Tenant Charges									
		COMO	Dental	DIS	DPS	DRMI	FNMOG	Housing	IDEA	MWR	NEXCOM
Oct	12872									2471	
Nov	10752									2064	
Dec	7693									1477	
Jan	7014									1346	
Feb	4256									818	
Mar	7047									1353	

Monthly Bill											
		NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
Oct	12872										10401
Nov	10752										8688
Dec	7693										6216
Jan	7014										5668
Feb	4256										3444
Mar	7047										5694

Account: NEV Electric  
 Subaccount: VBMN 518601 (LMV)

Billing Month:	MAR
	27493

Monthly Bill	
Oct	28507
Nov	24084
Dec	26093
Jan	27777
Feb	26628
Mar	27493

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM
						28005		192	123
						23659		162	104
						25633		176	113
						27288		187	120
						26159		179	115
						27008		185	119

Monthly Bill	
Oct	28507
Nov	24084
Dec	26093
Jan	27777
Feb	26628
Mar	27493

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									186
									157
									170
									181
									174
									179

**Account: NEV Electric**  
**Subaccount: VBMR 612001 (FNMOC)**

Billing Month:	MAR
	49034

Monthly Bill	
Oct	64760
Nov	48325
Dec	47345
Jan	50241
Feb	46321
Mar	49034

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM
					42885				
					32001				
					31352				
					33269				
					30674				
					32470				

Monthly Bill	
Oct	64760
Nov	48325
Dec	47345
Jan	50241
Feb	46321
Mar	49034

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
	15694								6181
	11711								4613
	11474								4519
	12176								4796
	11226								4422
	11883								4680

PG&E Gas & distribution					Mar	
Account & Sub-accts	Meter #	Location	Tenant(s)		usage	cost
<b>JBT SB 03131-5</b>		<b>Main Station</b>			112,233	17,343
VBM-95-00031	42304229	Sloat & 7th	NPS & RCs	therms	74	62
VBM-95-00041	38166854	Bldg 514	NPS	therms	12	19
VBM-95-00061	462723V	Bldg 349	NPS	therms	788	562
VBM-95-00091	33344278	Lab Rec	MWR / NPS	therms	2,593	1,818
VBM-95-00901	42729225	PW Complex	NPS	therms	2,768	1,940
FBM-A2-00131	0000000	Sloat meter	NPS & RCs	therms	105,998	12,941

<b>NBT SB 03141-4</b>		<b>FNMO</b>			12,858	7,035
		Bldgs				
VBM-95-09111	000718A	700,702,704	FMNOC	therms	12,858	7,035

<b>FBT SB 03121-7</b>		<b>LMV</b>			65,213	46,182
			NEX (LMV Store)			
VBM-M5-18501	30933705	LMV		therms	93	76
VBM-26-25951	42425394	LMV	Housing	therms	65,120	46,106

**PG&E Gas****Account: JBT-SB-03131-5****Subaccount: VBM-95-00031****Sloat & 7th**

Billing Month:	MAR
	62

Monthly Bill	
Oct	55
Nov	68
Dec	92
Jan	105
Feb	71
Mar	62

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM
1.00	0.25	0.15		0.86		4.38	0.26	0.55	2.78
1.27	0.31	0.19		1.08		5.46	0.32	0.68	3.47
1.70	0.41	0.25		1.44		7.31	0.43	0.91	4.64
1.95	0.47	0.29		1.65		8.35	0.49	1.05	5.31
1.32	0.32	0.20		1.12		5.67	0.33	0.71	3.60
1.16	0.28	0.17		0.98		4.98	0.29	0.62	3.16

Monthly Bill	
Oct	55
Nov	68
Dec	92
Jan	105
Feb	71
Mar	271

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
0.10			0.25		0.17		0.21	1.41	42.50
0.12			0.31		0.22		0.26	1.76	52.98
0.16			0.42		0.29		0.34	2.36	70.88
0.19			0.48		0.33		0.39	2.70	81.06
0.13			0.32		0.22		0.27	1.83	54.98
0.11			0.28		0.20		0.23	1.61	48.30

**PG&E Gas**

**Account: JBT-SB-03131-5**

Subaccount: VBM-95-00041

Beach Lab (Bldg 514)

Billing Month:	MAR
	19.24

Monthly Bill	
Oct	20.74
Nov	21.17
Dec	22.74
Jan	21.92
Feb	21.24
Mar	19.24

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM

Monthly Bill	
Oct	20.74
Nov	21.17
Dec	22.74
Jan	21.92
Feb	21.24
Mar	19.24

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									20.74
									21.17
									22.74
									21.92
									21.24
									19.24

PG&E Gas  
 Account: JBT-SB-03131-5  
 Subaccount: VBM-95-00061

Building 349

Billing Month:	MAR
	562

Monthly Bill	
Oct	478
Nov	1040
Dec	1131
Jan	926
Feb	751
Mar	562

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM

Monthly Bill	
Oct	478
Nov	1040
Dec	1131
Jan	926
Feb	751
Mar	562

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									478.23
									1040.17
									1131.01
									925.66
									751.41
									561.90

**PG&E Gas****Account: JBT-SB-03131-5**

Subaccount: VBM-95-00091

Lab-Rec Area

Billing Month:	MAR
	1818

Monthly Bill	
Oct	904
Nov	1274
Dec	2492
Jan	2533
Feb	2079
Mar	1818

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM
								174	
								245	
								478	
								486	
								399	
								349	

Monthly Bill	
Oct	904
Nov	1274
Dec	2492
Jan	2533
Feb	2079
Mar	1818

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									730
									1030
									2014
									2047
									1680
									1469



**PG&E Gas****Account: JBT-SB-03131-5**

Subaccount: VBM-95-00901

PW Complex

Billing Month:	MAR
	1940

Monthly Bill	
Oct	788
Nov	1982
Dec	3047
Jan	3152
Feb	2500
Mar	1940

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM

Monthly Bill	
Oct	788
Nov	1982
Dec	3047
Jan	3152
Feb	2500
Mar	1940

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									788
									1982
									3047
									3152
									2500
									1940

**PG&E Gas****Account: JBT-SB-03131-5**

Subaccount: FBM-A2-00131

Steam Plant

Billing Month:	MAR
	12941

Monthly Bill	
Oct	5800
Nov	8946
Dec	13218
Jan	12705
Feb	10478
Mar	12941

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM
108	26	16		91		463	27	58	294
166	40	24		141		714	42	89	454
246	60	36		208		1055	62	132	670
236	57	35		200		1014	60	127	644
195	47	29		165		836	49	105	531
241	36	36		204		1033	61	129	656

Monthly Bill	
Oct	5800
Nov	8946
Dec	13218
Jan	12705
Feb	10478
Mar	12941

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
10			26		18		22	149	4491
16			41		28		33	230	6927
24			60		42		49	341	10234
23			58		40		47	327	9836
19			48		33		39	270	8113
23			59		41		48	333	10019

PG&E Gas& Distribution  
 Account: FBT-SB-03121-7  
 Subaccount: VBM-M5-18501

LA Mesa Village

Billing Month:	MAR
	76

Monthly Bill	
Oct	30
Nov	0
Dec	132
Jan	166
Feb	99
Mar	76

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM
						30			
						0			
						132			
						166			
						99			
						76			

Monthly Bill	
Oct	30
Nov	0
Dec	132
Jan	166
Feb	99
Mar	76

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS

PG&E Gas & Distribution  
 Account: FBT-SB-03121-7  
 Subaccount: VBM-26-25951

LA Mesa Village

Billing Month:	MAR
	46106

Monthly Bill	
Oct	25913
Nov	0
Dec	82599
Jan	0
Feb	266000
Mar	46106

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM
						25784			
						82186			
						264670			
						45875			

Monthly Bill	
Oct	25913
Nov	0
Dec	82599
Jan	0
Feb	266000
Mar	46106

NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									130
									0
									413
									0
									1330
									231

**PG&E Gas& Distribution**  
**Account: NBT-SB-03141-7**  
**Subaccount:**

FNMOC/ Annex

VBM-95-09111	7119
--------------	------

Billing Month:	MAR
	7035

Monthly Bill		Tenant Charges									
		COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM
Oct	5907						3911				
Nov	6530						4324				
Dec	7438						4926				
Jan	8014						5307				
Feb	7119						4714				
Mar	7035						4658				

Monthly Bill		Tenant Charges									
		NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
Oct	5907		1432								564
Nov	6530		1583								623
Dec	7438		1803								710
Jan	8014		1942								765
Feb	7119		1725								680
Mar	7035		1705								672

<b>DFESC Natural Gas</b>					<b>Mar</b>	
<b>Account &amp; Sub-accts</b>	<b>Meter #</b>	<b>Location</b>	<b>Tenant(s)</b>	<b>units</b>	<b>usage</b>	<b>cost</b>
SPO600-99-D-7522	n/a	Main Station	NPS	dth		

<b>PG&amp;E distribution of DFESC gas</b>						
<b>SBM 07 65401-0</b>		<b>Main Station</b>			250	33.73
N68711-68-C-0262	47787256	Main Station	NPS	therms	250	33.73

Account: DFESC Natural Gas  
Subaccount: SPO600-99-D-7522

Billing Month:	FEB
	26854

Monthly Bill		Tenant Charges									
		COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM
Oct	17861	332	80	49		281		1425	84	178	906
Nov	27468	511	124	76		432		2192	129	274	1393
Dec	32566	605	147	90		513		2599	153	325	1652
Jan	30998	576	140	85		488		2474	145	310	1572
Feb	26854	499	121	74		423		2143	126	268	1362
Mar	0										

Monthly Bill											
		NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
Oct	17861	32			81		57		67	460	13828
Nov	27468	49			125		87		103	708	21267
Dec	32566	58			148		103		122	839	25214
Jan	30998	55			141		98		116	799	24000
Feb	26854	48			122		85		100	692	20791
Mar	0										

**PG&E Distribution of DFESC Gas**

**Account SBM 07-65401-0**

Subaccount: N68711-68-C-0262

Main Station

Billing Month:	MAR
	33.73

Monthly Bill		Tenant Charges									
		COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM
Oct	27.47	0.51	0.12	0.08		0.43		2.19	0.13	0.27	1.39
Nov	28.55	0.53	0.13	0.08		0.45		2.28	0.29	0.29	1.45
Dec	15.59	0.29	0.07	0.04		0.25		1.24	0.07	0.16	0.79
Jan	14.83	0.28	0.07	0.04		0.23		1.18	0.07	0.15	0.75
Feb	40.53	0.75	0.18	0.11		0.64		3.23	0.19	0.40	2.06
Mar	33.73	0.63	0.15	0.09		0.53		2.69	0.16	0.34	1.71

Monthly Bill		Tenant Charges									
		NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
Oct	27.47	0.05			0.12		0.09		0.10	0.71	21.27
Nov	28.55	0.05			0.13		0.09		0.11	0.74	22.10
Dec	15.59	0.03			0.07		0.05		0.06	0.40	12.07
Jan	14.83	0.03			0.07		0.05		0.06	0.38	11.48
Feb	40.53	0.07			0.18		0.13		0.15	1.04	31.38
Mar	33.73	0.06			0.15		0.11		0.13	0.87	26.11



					Mar	
Account & Sub-accts	Meter #	Location	Tenant(s)	units	usage	cost
Cal-Am Water						
020-401-0050-001	031678946, 031973743, 031815954, 031973693	Main Station	NPS	100 cf (748 gal)	3,188	9,983.67
020-456-7920-002	031928656, 060117529	LMV	Housing	100 cf	7,848	19,571.13
020-402-1200-009	031690655, 031940059	Annex	FNOMC	100 cf	489	2,455.82
020-602-0520-006	Monthly fee	Garden Ave. Fire	NPS/PW	100 cf	0	49.05
020-602-1460-004	Monthly fee	Garden Ave. Dom.	NPS/PW	100 cf	1	35.28

<b>MRWPCA Sewage</b>						
03-5896/001-771-039	set cost	LMV	Housing			12,671.21
03-8255/013-011-002	set cost	Main Station	NPS			4,440.00

Account: CAL-AM Water  
 Subaccount: 020-401-0050-001

Main Station

Billing Month:	MAR
	9984

Monthly Bill		Tenant Charges									
		COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM
Oct	12534	1529	42	42	4	127			102	595	340
Nov	7070	862	24	24	2	72			57	335	192
Dec	13887	1694	47	47	5	141			113	659	376
Jan	7982	974	27	27	3	81			65	379	216
Feb	8685	1060	29	29	3	88			71	412	235
Mar	9984	1218	34	34	3	101			81	474	271

Monthly Bill											
		NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
Oct	12534	34			85	42	42	17	17	170	9344
Nov	7070	19			48	24	24	10	10	96	5271
Dec	13887	38			94	47	47	19	19	188	10353
Jan	7982	22			54	27	27	11	11	108	5951
Feb	8685	24			59	29	29	12	12	118	6475
Mar	9984	27			68	34	34	14	14	135	7443

Account: CAL-AM Water

Subaccount: 020-456-7920-002

La Mesa Village

Billing Month:	MAR
	19571

Monthly Bill		Tenant Charges									
		COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM
Oct	23970							22728		1146	95
Nov	23111							21914		1105	92
Dec	16158							15322		773	64
Jan	13800							13085		660	55
Feb	21994							20855		1052	88
Mar	19571							18557		936	78

Monthly Bill											
		NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
Oct	23970										
Nov	23111										
Dec	16158										
Jan	13800										
Feb	21994										
Mar	19571										

Billing Month:	MAR
	2456

Monthly Bill		Tenant Charges									
		COMO	Dental	DIS	DPS	DRMI	FNMOC	Housing	IDEA	MWR	NEXCOM
Oct	3031						1493			995	
Nov	2343						1154			769	
Dec	2520						1241			828	
Jan	2465						1214			809	
Feb	2489						1226			817	
Mar	2456						1210			806	

Monthly Bill											
		NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
Oct	3031		543								
Nov	2343		420								
Dec	2520		451								
Jan	2465		441								
Feb	2489		446								
Mar	2456		440								

**Account: CAL-AM**  
Subaccounts

(Fixed monthly fees)

	Monthly charge
PW Complex (Fire) 020-602-0520-006	49.05
PW Complex (Domestic) 020-602-1460-004	35.28

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM

	Monthly charge
PW Complex (Fire) 020-602-0520-006	49.05
PW Complex (Domestic) 020-602-1460-004	35.28

Tenant Charges									
NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
									49.05
									35.28

**Account: MRWPCA Sewage**

(Fixed monthly fees)

## Subaccounts

	Monthly charge
La Mesa Village 03-5896/001-771-039	12671.2
Main Station 03-8255/013-011-002	4440

Tenant Charges									
COMO	Dental	DIS	DPS	DRMI	FNMO	Housing	IDEA	MWR	NEXCOM
						12015		606	50
542	15	15	2	45			36	211	120

	Monthly charge
La Mesa Village 03-5896/001-771-039	12671.2
Main Station 03-8255/013-011-002	4440

Tenant Charges									
NFCU	NRL	NWS	PSD	ROICC	TRAC	USPS	QTRS A	B-N	NPS
12			30	15	15	6	6	60	3310

**THIS PAGE INTENTIONALLY LEFT BLANK**

## LIST OF REFERENCES

1. Euske, Kenneth J. *Implementing Activity-based Costing*. Frank Collins, ed. New York: Executive Enterprises, 1991.
2. Stickney, Clyde P. and Weil, Roman L. *Financial Accounting: An Introduction to Concepts, Methods, and Uses*. 8<sup>th</sup> ed. Fort Worth: Dryden, 1997.
3. Collins, Frank and Werner, Michael L. *Implementing Activity-based Costing*. Frank Collins, ed. New York: Executive Enterprises, 1991.
4. White, Timothy S. *The 60 Minute ABC Handbook Activity-based Costing for Operation Management*. Bedford, TX: CAMI, 1997.
5. Buckley, John W. and Marlene H.; Chiang, Hung-Fu. *Research Methodology & Business Decisions*. National Association of Accounts, 1976.
6. Morale, Welfare and Recreation. [[www.mwr.navy.mil](http://www.mwr.navy.mil)], March 2000.
7. Harris, Chrys, MWR Financial Administrator, provided the vision statement that was developed by the administrators, March 2000.
8. Department of the Navy, Assistant Secretary of the Navy (Financial Management & Comptroller). "Financial Management Policy Manual," August 15, 1995.
9. *Financial Management Guidebook for Commanding Officers*. ASN (FM&C). NAVSO P-3582, October 1998.
10. Garrison, Ray H. and Noreen, Eric W. *Managerial Accounting*. 9<sup>th</sup> ed. Boston: McGraw-Hill, 2000.
11. Naval Comptroller's Manual, Vol. 3.
12. Murdter, Michael J. *Utility Cost Accounting and Market Pricing of Electricity at the Naval Postgraduate School*. Thesis, June 1994.
13. *MWR Manager's Desk Reference*. 1999.



**THIS PAGE INTENTIONALLY LEFT BLANK**

## INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center..... 2  
8725 John J. Kingman Road, Ste 0944  
Fort Belvoir, VA 22060-6218
2. Dudley Knox Library..... 2  
Naval Postgraduate School  
411 Dyer Road  
Monterey, California 93943-5101
3. Professor James M. Fremgen..... 1  
Code SM/Fm  
Naval Postgraduate School  
Monterey, CA 93940
4. Megan Ryan..... 1  
MWR Director  
Naval Postgraduate School  
Monterey, CA 93940
5. Chrys Harris..... 1  
MWR Financial Administrator  
Naval Postgraduate School  
Monterey, CA 93940
6. ENS Jay Tulley..... 1  
Public Works Engineering Director  
Naval Postgraduate School  
Monterey, CA 93940
7. Mr. Benjamin Beattie..... 2  
1030 Leidig Dr.  
Chambersburg, PA 17201